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CIVICO REGIMINE DONATA A.D. 1846
CANTABRIGIA
CONDITA A.D. 1630

City of Cambridge.

THE

MAYOR'S ADDRESS

AT THE

Organization of the City Government,

JANUARY 5, 1885,

AND

THE ANNUAL REPORTS

MADE TO THE CITY COUNCIL,

FOR THE YEAR 1884.

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ADDRESS

OF

HON. WILLIAM E. RUSSELL,

MAYOR.

Gentlemen of the City Council:—

We assume to-day an important trust, confided to us by our fellow-citizens. For the year we are to manage their municipal affairs, collect in taxes their money, and spend it for public purposes only. This relation demands of us fidelity, honesty, unselfishness. To neglect a duty is to be unfaithful; to divert a dollar from other than a public purpose is to be dishonest; to serve or to consider ourselves, while discharging our public duties, is to violate our trust.

We are the governing power of a great corporation, with a membership of over sixty thousand, a valuation of $53,000,000, a yearly revenue of over $1,200,000. Its purpose is not money-making, but to secure the peace, happiness, and welfare of its members, by giving them its protection and its benefits, and imposing on them lightly its burdens of taxation and restriction. Its duties are public duties, different from and broader than those of

any private corporation; but yet, to be performed properly, they must be performed in a business way, and upon business principles.

To incur no unnecessary or extravagant expenditure; to get a dollar's worth for a dollar spent; to pay each year current annual expenses; carefully to foresee and make provision for them in our appropriations; to live within such appropriations when made, and our income fixed; and, finally, to know, and let the citizens know, just where we stand, — are simple business and economic principles that should be followed. To incur expense without providing income to meet it, or to exceed appropriations, means debt; such debt misleads, and shifts the burden to the future. The tax-payers should know and feel by the tax-rate each year's current expenses; and can then intelligently indorse or condemn them. To force a low rate of taxation, not by saving, but by debt, is not a sound business principle; to remove faithful officials without cause is not a sound business principle; to use our offices for party purposes, or our power to reward political friends and punish political opponents, is to be governed by a "sinister interest," and to be indifferent to the public good; to promote our own or any merely private interest, or to allow political ambition to swerve us in our public duties, is simple dishonesty and a betrayal of our trust. Honest, faithful, unselfish public service should be our single aim, and will bring its own reward.

The city charter separates and defines our respective duties. Upon you is put the duty of legislation, of determining how much and what shall be our expenses,

the ways and means to meet them; upon me is put the duty of suggestion, supervision, execution. Between us there should be, and I have no doubt there will be, a hearty co-operation, mutual respect and forbearance, and that cordial, kindly feeling which makes our work most beneficial to the city and pleasant to ourselves. While the law defines our powers and, largely, our duties, in their execution it necessarily leaves to us a wide discretion. The wise exercise of that discretion will determine the success of our administration.

I apprehend that three controlling, but to some extent conflicting, influences will govern our discretion. Speaking generally, I may call these our city's burdens, needs, and desires. The first is represented in her taxes. It will be our aim to lighten this burden, not by running into debt for the year's current expenses, nor by refusing needed appropriations, but by care and economy, ever remembering that in spending others' money we justly are held to strict account. The second is represented principally in our annual current expenses, which include Schools (instruction, school-books, care and repair), Streets, Sewers, Bridges, Fire, Police, and Pauper Departments, Salaries, Engineering, Incidentals, and other minor items; also interest and payments to the Sinking Funds; but these last are determined by law, and practically beyond our control. I think there should be included also any appropriation for new primary school-houses, which, with increasing pupils, have now become an annual want, and so an annual current expense. Any unusual but necessary expense, — such as the extension of the Water Works and Cemetery, rebuilding the High

School or building a new one,—which is incurred as much for the future as the present, it is unjust should be borne wholly by the present. It properly is made a debt to be distributed among the years that receive the benefit. Especially is this true where, as in the cemetery extension, the present expense will be repaid in future years by an annual income from the sale of new lots.

The line between unusual expenses, which should be borne at the time of their creation, and those which may rightly be divided and distributed, is often indistinct and doubtful. I would urge that in case of real doubt we choose the safer course, and let the present bear the burden. We then shall have a safeguard against hasty expenditure, or one of doubtful expediency, in having its burden at once felt by those who can and will hold us to a full responsibility. If the expense is wise, prudent, necessary, the tax-payers will indorse it, and willingly bear it. The *manner* of spending public money, rather than the *amount*, they watch and criticise.

The third influence is represented in improvements, which, though not an actual necessity, are much desired, a benefit to the city, and will increase her value and attractiveness, — such as extensive paving, a new bridge to Boston, a drive-way around Fresh Pond, parks, etc. Unless the conditions stated exist, such improvements should not be made. Even then, they should be most carefully considered. While I do not believe in a stand-still policy that would prevent us from looking into the future and planning to-day what soon may be necessities for a city with a growing population and increasing wealth, and what will hasten her progress, nor in a policy which rejects all

improvements, because they are improvements only, not present necessities, I do believe that this influence should have the least weight of those that I have mentioned. We should consider first our actual, present necessities and the burden they impose; and having fully met such necessities, and lightened that burden, then see how best we may serve the future without unduly burdening the present.

The time to consider these influences, and the weight that should be given to each and all of them, is when the appropriations are made. Certainly we should then determine the necessities of the year, what improvements we mean to make and pay for, and all expenses that do not properly become a funded debt. When these appropriations are made, and given to the assessors, the income of the year is fixed. We must then live within it, or "run in debt," with the deception and evils always incident thereto.

Gentlemen, in the light of these remarks, let me now call your attention to the various city departments, their wants and wishes, with such suggestions as occur to me. First let us see exactly our financial condition.

FINANCES.

Our liabilities at the close of our financial year (Nov. 30, 1884) were as follows: —

FUNDED CITY DEBT.

Bonds outstanding	$1,762,000.00
Sinking Fund, for payment of same	590,196.54
Net funded city debt	$1,171,803.46

FUNDED WATER DEBT.

Bonds outstanding	$1,459,500.00
Sinking Fund, for payment of same	787,161.56
Net funded water debt	$672,338.44

FUNDED DEBT 1883 AND 1884 COMPARED.

	1883.	1884.
City funded debt	$2,450,000.00	$1,762,000.00
Water funded debt	1,423,500.00	1,459,500.00
Gross funded debt	$3,873,500.00	$3,221,500.00
Less amount in both sinking funds	1,617,214.14	1,377,358.10
Net funded debt	$2,256,285.86	$1,844,141.90
Decrease in 1884 of net funded debt		$412,143.96

Of the amount in the Sinking Fund to pay the Water Debt, $200,000 is in a note of the city to the "Cambridge Water Works," dated Dec. 1, 1883, and given by authority of the City Council of 1883. For a number of years, running back to 1865, the excess of receipts over expenditures in the management of the Water Works was covered into the City Treasury, when by law it should have been paid to the Water Works Sinking Fund. The amount so paid was found on computation to be $200,000, which has now been repaid. The note is contingent for payment of its principal upon all the other funds in said Sinking Fund being first exhausted. It bears 4 per cent interest. As to this amount, the net decrease of the funded debt is creation of debt in another form, the real, beneficial decrease of said debt during the year is $200,000 less than above stated.

The amount raised by taxation in 1884, and paid to the Sinking Fund of the city debt, was $80,225. The amount certified to the Auditor by the Commissioners

was $115,265. The city ordinance says the amount so certified "shall be put into the yearly appropriation." This was not done upon the advice of the City Solicitor that it was not absolutely necessary; in consequence the Sinking Fund is short the difference of $35,040, which is to-day a debt of the city to said fund. The Commissioners, in their report, say, "The Board would also remind the City Council that the amount fixed by them under the Statute of 1875 as due the Sinking Fund for this year (1884), due notice of which was given in writing to the Auditor, as provided, was $115,265, of which only $80,225 has been received, leaving the sum of $35,040 as still, Nov. 30 (1884), due to the fund. Our duty is made clear by section 5, chapter 34, of the City Ordinances, which reads as follows, viz.: 'The Board shall, at the close of each financial year, certify to the Auditor the amount hereunder required to be raised by taxation for the several funds, which amount shall be put into the yearly appropriations the next succeeding year.' . . . A compliance with this section will require the payment of the amount stated above as now overdue. Unless this sum is now paid, the fund will not suffice to meet the full debt at maturity. We have therefore included the sum of $35,040, the amount overdue, in the amount we have asked for the year 1885. In no other way can the fund accomplish the result intended by the Act of 1875."

I would recommend that this deficiency at once be made good, and the Sinking Fund kept intact.

The net city funded debt, exclusive of water debt, is now about $2\frac{2}{10}$ per cent of the present valuation

($53,000,000) of the city; including net water debt, it is about $3\frac{4}{10}$ per cent of said valuation. In 1877, when our debt was largest, the net funded debt, exclusive of water debt, was about $4\frac{3}{4}$ per cent of the then valuation ($55,700,000) of the city; including net water debt, it was about 7 per cent of said valuation.

LIABILITIES (OTHER THAN FUNDED DEBT).

The Dowse Institute Trust Fund	$10,000.00
" Sanders Temperance Trust Fund	10,000.00
" Daniel White Charity Trust Fund	5,000.00
" Fay Library Trust Fund	1,000.00
" Cemetery Fund, for perpetual care of lots	6,250.00
Temporary loan	171,000.00
City note to the Commissioners of the Sinking Fund of Water Works	200,000.00
Unpaid balance due City Sinking Fund	35,040.00
Total	$438,290.00

ASSETS.

Cash in treasury	$1,158.50
Notes receivable, secured by mortgage on real estate	14,205.09
Surrendered estates and salable city lands (estimated)	139,218.35
Uncollected water bills	941.56
" taxes for 1883 and 1884	*93,494.93
Miscellaneous bills and sewer assessments unpaid	8,130.52
Total	$257,148.95

LIABILITIES (OTHER THAN THE FUNDED DEBT) AND ASSETS OF 1883 AND 1884 COMPARED.

	1883.		1884.
Liabilities	$269,471.08		$438,290.00
Assets	358,465.03		257,148.95
	Excess assets $88,993.95	Excess liabilities	$181,141.05
Net increase of unfunded liabilities in 1884			$270,135.00

* Estimated value of this item, $73,000.00.

In the above tables of liabilities and assets of 1884 there do not appear any items of money due the State and County from the City, or of money due the City from the State. The last administration, wisely changing the rule of past years, paid such indebtedness and took such income. Before, the rule had been to put the payment of the State and County taxes of the year on the succeeding year, and give to such succeeding year the revenue due the City from the State for the year of the tax. This was often necessary, as the account between the City and State was not made up till after the close of our financial year. There have, therefore, been paid during the past year two State and County taxes; but there has been received also a double revenue from the State. The extra amount so paid and received is as follows: —

Paid State tax (1884)	$59,780.00
" National Bank tax (1884)	5,752.52
Total paid State	$65,532.52
Received Corporation tax (1884)	$43,437.51
" Bank tax (1884)	21,215.36
" State aid (1884)	10,673.50
" For support and burial of paupers, etc. (1884)	1,569.09
Total received from State	$76,895.46
Balance received from State	11,362.94
Paid County tax (1884)	$27,496.80
Deduct balance received from State	11,362.94
Net actual payment by city	$16,133.86

The accounts between the City, County, and State are closed and settled. I recommend that this policy be continued, and that each year settle its own accounts. If

the accounts are not rendered in time to do this, then that a balance, if necessary, be left in the treasury for this purpose.

In the above comparison of years, 1883 and 1884, it appears there has been a large increase in the floating debt, and also a large decrease in the assets the past year, making a net increase of floating debt of $270,135; in 1883 there was a net increase over 1882 of $85,626.52 of floating debt; in 1882 there was a net increase over 1881 of $98,595.45 of floating debt; in 1881 there was a net increase over 1880 of $36,600.99 of floating debt: so that during the last few years, while the Sinking Fund has been paying much of the funded debt, the unfunded debt has been steadily and largely increasing, in all, since 1881, $490,957.96, till now for the first time it exceeds the assets, showing a balance beyond them of $181,141.05. Gentlemen, this must stop. Such a policy is "pernicious in its influence, and disastrous in its results. It tends to promote careless, unnecessary, and extravagant expenditure, by allowing it to be made without the necessity of instantly notifying the citizens of it in their annual tax-bills." It makes a debt easy to increase, difficult of payment, and of which the sinking-fund law does not take hold and gradually cancel.

Of the present floating debt, $206,040 (temporary loan, $171,000, unpaid balance due City Sinking Fund, $35,040) is an accumulation of unpaid current annual expenses of the last few years. These expenses should have been paid in the years of their creation; if necessary, by increased taxation in those years. I cannot too strongly condemn the policy of making a debt of current

annual expenses. They have not been so paid; and the problem for us is how best now to bear this burden. To pay it this year means an increase of the tax-rate of nearly $4 per $1,000, an adding to the burden of this year's current expenses those of the past few years not of our creation, and doing in one year what several years have failed to do, to which the duty properly belonged. Such a course I deem unwise and unjust. Two other courses only are open to us, — (1.) To continue the debt as a floating debt, either in its present form or in notes of the city running for a number of years; (2.) To fund it in ten-year bonds. The first course leaves it a floating debt, with all the evils of such a debt, — the temptation to add to it, to extend it, to make no appropriations to meet it, or to divert to other channels such appropriations when made; in a word, the danger of not paying, but increasing it. The second course puts it in such form that the law compels its payment, and a yearly provision to meet such payment. I recommend that we adopt this course, and fund most of it, paying a small part of it this year.

TOTAL NET DEBT (DEC. 1, 1884).

Funded City debt	$1,762,000.00
" Water debt	1,459,500.00
Floating City debt	438,290.00
Total	$3,659,790.00

ASSETS.

City Sinking Fund	$590,196.54	
Water " "	787,161.56	
All other available assets	257,148.95	
		1,634,507.05
Net debt		$2,025,282.95

TOTAL NET DEBT (DEC. 1, 1883).

Funded City debt	$2,450,000.00
" Water debt	1,423,500.00
Floating City debt	269,471.08
Total	$4,142,971.08

ASSETS.

City Sinking Fund	$1,120,317.19	
Water " "	496,896.25	
All other available assets	358,465.03	
		1,975,678.47
Net debt		$2,167,292.61

Decrease in net debt, 1884	$142,009.66

But during 1884 there was paid: —

To the City Sinking Fund	$80,225.00
" Water " "	290,264.61
Total	$370,489.61
Deduct new bonds issued (water)	36,000.00
Net payments for debt (1884)	$334,489.61
Net debt paid (1884)	142,009.66
Balance	$192,479.95

which balance shows the net amount of debt that was paid less than the net amount raised for payment during the year 1884.

There was appropriated last year: —

For interest on City funded debt	$144,860.00
" Sinking Fund	80,225.00
Total	$225,085.00
In 1883 there was appropriated for same items	$344,825.00
Saving in 1884	$119,740.00

This saving, equal to about $2.30 in the tax-rate per $1,000, was caused by payments on the debt during the year from the Sinking Fund ; and yet it was not felt in a reduced tax-rate for 1884. The simple truth is, that the benefit of such payments has been offset by the increase of appropriations and of floating debt.

The rate of taxation the past year has been $16.80 per $1,000, — the largest tax-rate since 1879. The original expenses for which appropriations were made for the year were exceeded by about $70,000, and a very large net increase of floating debt made.

I give these facts and figures in no unfriendly spirit towards the last administration, of which I was a member, but because it is my duty to inform you exactly of the financial condition of our city, and what progress has been made to better it. It certainly is only proper to repeat that $200,000 of the year's increase of floating debt was in the note of the city to the Water Sinking Fund, given to pay yearly debts of the city to it, running back to 1865. Full credit for this payment is given also by including it in the Water Sinking Fund, thus showing additional net decrease in funded debt to that amount.

Gentlemen, I have first and fully stated to you our city's burden, because I believe it merits your first and most careful attention. I trust that you will make a determined effort to lighten it, remembering the words of my predecessor of 1854, that "the true secret of the prosperity of a place, and of adding to its wealth and character, is in keeping the rate of taxation within reasonable limits, and the only good reason for

resorting to an increase must be found in its absolute necessity."

There is a growing feeling in the community that there should be further legislative restraint on municipal expenditures; this feeling has found expression in a Bill proposed to be submitted to the Legislature, providing that the aggregate of all appropriations for municipal purposes, exclusive of sums required by law to be raised on account of the city debt, shall not exceed a sum that can be raised by a tax-rate of $10 (or some other fixed rate) per $1,000; it also gives the Mayor power to veto items in appropriations. The Bill thus limits expenditures, and compels them to be kept within such limits; and so seeks to define and restrict the burden on the tax-payers.

Whether or not such legislation is enacted, I would urge that we be guided by the feeling that prompts it.

TRUST FUNDS.

Of our floating debt, $32,250 are trust funds, which have been covered into the treasury, used as income, and made an annual charge on succeeding years. Such a policy I believe is wrong: if followed, it would make a trust gift of say $50,000 so much income for the year it was received, but an annual charge forever in carrying out the trust; and if the principal ever had to be paid, so much added burden to the year that paid it.

I therefore renew the recommendation of my immediate predecessor, that a sinking fund be created to restore the principal of these trusts.

I now ask your attention to the city's needs, and, for this purpose, to her various departments. I shall not attempt to review their work except so far as necessary to make suggestions for your consideration. Their work you will learn from the full and able reports of the heads of these departments, to which I commend your careful attention. Upon them rests the duty of administration; upon you the duty of providing for their expenses, and, with some exceptions, through your committees, supervising their administration. These departments you control, and their policy you determine, whether it shall be economic, liberal, or extravagant. You will be held responsible for the wise exercise of this power.

SCHOOLS.

Their management is under the control of an independent board, the School Committee, who report to the City Council each year the condition and work of the schools and their necessities, and, as occasion requires, ask for needed appropriations. I am sure you will give most careful attention to these requests, and see that our admirable school system is maintained in all its vigor. From earliest colonial days our public-school system has existed. "To the end that learning may not be buried in the graves of our forefathers," as recited in the Colonial Act of 1647, the system was established; to give to the humblest child the blessings of education, to make intelligent, useful, law-abiding citizens, to secure religious and political freedom, and to maintain the principles of self-government, founded on universal suffrage,

this system has been guarded and extended by State legislation, supported and fostered by municipal taxation. Cheerfully and liberally our citizens always have contributed for public schools, justly the pride of our University city.

SCHOOL STATISTICS FOR 1884.

Number of pupils on the first of December	9,062
Increase during the year	165
Number of teachers on the first of December	216
Increase during the year	7
[Temporary assistants and members of the training class are counted as eight teachers, the sum of their salaries being equal to the amount paid that number of regular teachers.]	
Cost of the day schools, not including expenditures for new school-house and new furniture	$203,234.56
Increase over last year	$26,084.63
[More than one half of this increase is due to the additional expense incurred in carrying out the provisions of the free text-book law.]	
Cost of the schools per pupil	$24.15
Increase over last year	$2.53
Cost of new school-house (not including land) and new furniture	$17,991.34
Cost of Evening Schools	$1,253.22
Cost of Drawing Schools	$949.70
Total expenditures for all school purposes	$223,428.82
Deducting receipts from Hopkins Fund ($760.87) and from tuition of non-resident pupils ($236.25), cost of the schools to the city	$222,431.70
Increase over last year	$28,626.55

During the past year there has been erected in Ward 2 a substantial brick school-house, called the Wellington,

in honor of Dr. W. W. Wellington, who for many years was a member of the School Board, and at present is its Secretary.

A new school-house is needed in Ward 4. There is also pressing need for more accommodations for the High School. This need, stated to the City Council as far back as 1875, has received the past year much consideration from the School Board. Two plans were there discussed: one of rebuilding and enlarging the present structure, the other of erecting a new building, and possibly separating the Classical and English Departments. Without doubt the School Board will recommend some action this year; and you will then give the subject the careful attention its importance demands.

CAMBRIDGE PUBLIC LIBRARY.

Quietly, unceasingly, day by day, our Library does its good work of education, and adds pleasure to many a household. For several years its work has been much restricted, because of its wholly inadequate accommodations. It was hoped that its want might appeal to the generosity of some wealthy citizen, who, in giving a Library building to our city, would confer on her a great benefit, and on himself lasting honor. The city soon must do this work, or allow a library of over 17,000 volumes to be seriously restricted in its work. The Trustees ask for a special appropriation of $1,000 to begin a new catalogue, which seems a necessity.

WATER WORKS.

The question of an additional supply, which for some years has been much considered, is now definitely settled.

Permission has been granted Cambridge by the Legislature of 1884 to take water from Stony Brook (the boundary between Waltham and Weston) and its tributaries. The City Council in July last adopted this plan, strongly recommended by the Water Board, and appropriated $300,000 to carry out the work, of which about $13,000 has been expended. The estimated expense is $500,000. Surveys, plans, and borings have been made for much of the work, some land purchased, negotiations begun for rights of way, and land required for the basin, the pipe contracted for, and some already delivered. The borings made for the dam do not show as favorable material for the construction of the foundation as could be desired. Its cost will therefore, probably, exceed the estimates. The pipe has been purchased for $60,000 less than estimated, which will more than cover the increased cost of the dam. The work is progressing rapidly, and by the end of the year, in the opinion of the Water Board, will be well advanced toward completion.

The necessity of an additional water supply has hardly been questioned; the source of that supply is now determined. Let us cordially and earnestly co-operate with the Water Board in successfully finishing the work planned and begun by our predecessors. No work more important or involving a larger expense has been undertaken by the city for years. I would strongly urge you to make yourselves familiar with it, so that you may exercise always an intelligent, independent judgment on the questions that come before you. I recommend the creation of a joint committee on water supply.

The Water Board are of opinion that, as Fresh Pond

is to be our receiving and storage basin for the next fifty years, every means should be taken to clean and protect it and preserve the purity of its waters. Much has already been done in cleaning and deepening the basin, and building up and riprapping its banks. For greater control and protection, they advise securing the land bordering on the pond. The Legislature has given the city authority to take a strip five rods wide; which strip they advise the city now to take, and, by bargain, whatever more is needed. This recommendation was sent to the last City Council, and by it referred to you.

ITS FINANCIAL STANDING.

Total cost of Water Works to Nov. 30, 1884		$1,782,864.71
Present bonded debt	$1,459,500.00	
Deduct present Sinking Fund . . .	787,161.56	
Net debt	$672,338.44	

The Water Works have paid all their expenses and interest, and to the Sinking Fund nearly $800,000 of their cost, leaving the net cost of the Works to-day the amount of their net debt.

Gross receipts	$170,427.83
" expenses, including interest and Sinking Fund . .	164,686.19
Surplus	$5,741.64

which has been added to the Sinking Fund.

Received from water-rates, 1883	$179,361.89
" " " 1884	161,526.27
Loss	$17,835.62

The time for collecting water-rates was changed from July 1 to May 1, giving but ten months' water-rates to

collect in 1884, which would more than account for the loss. There was also a reduction made in water-rates.

STREETS.

Much improvement has been made in their condition the past year. They are now reported by the Superintendent as "in a fair condition, but not what they should be." The paving of Main Street from the bridge to the railroad crossing, ordered last year, has been commenced and about one third completed. Of the bridges in charge of this department, the Boylston Street, River Street, and Western Avenue have been substantially rebuilt. None require more than ordinary repairs this year, except Third Street Bridge, which is reported unsafe, and probably must be rebuilt. The Superintendent reports the need of an additional gravel supply, recommends an increased appropriation for street repairs, an extension of paving on our main thoroughfares, the grading of Dana Square, and the purchase of six new watering-carts. The City Engineer renews his recommendation of last year of constructing a bulkhead on the southerly side of Mount Auburn Street from the Casino grounds westerly about one thousand feet, at an estimated cost of $5,000, — all of which recommendations are submitted for your consideration.

The appropriations for this department last year were: Repairs, $88,819.30; paving, $19,714.76; watering streets, $31,842.08; shade-trees and public grounds, $4,119.18; bridges, $13,500. There was a balance unexpended for paving of $1,538.33. The expense of watering streets included a bill paid of 1883 of $6,036, and $2,790 paid for new carts.

BRIDGES.

Our principal bridges (West Boston, Canal, and Prison Point) are a separate department, in charge of a commissioner. He reports extensive repairs made on West Boston and Prison Point Bridges, and the ordinary repairs on Canal or Craigie Bridge. They are now in good condition, except the bulkheads of West Boston Bridge, which, with one exception, need to be rebuilt. The electric lighting of our two main bridges has been continued, and more than repays the extra cost. The total appropriation for this department last year was $10,224.46, of which $1,237.61 was not expended.

HARBOR-MASTER.

In August last the City Council, acting under authority of sect. 25, chap. 69, of the Public Statutes, appointed our Bridge Commissioner, Mr. Marvin, also Harbor-master. He has general control of all vessels anchoring or discharging within our limits. No salary is attached to the office. His report shows the necessity of such an officer, and the work he has done.

SEWERS.

There have been constructed the past year $2\frac{73}{100}$ miles of sewers, making a total of $69\frac{349}{1000}$ miles of sewers in the city. The longest and most expensive new sewer constructed was in Raymond Street and Crescent Avenue. The City Engineer reports the sewers "as generally in good condition," except those in Charles, Second, part

of Sixth, and Spring Streets, which, having settled, are practically useless and dangerous to health, and should be rebuilt. The outlet of Charles Street sewer will soon be cut off by the filling of the flats on which it discharges, and "will have to be changed at a very considerable cost the coming season." The Remington Street sewer, now passing over private lands between Main and Mt. Auburn Streets, it is recommended to turn down through Arrow and Bow Streets, to the Oxford Street sewer; also that sewers be built in Hubbard Avenue, Mead and Walden Streets, and Cogswell Place.

Much complaint is made of defective drainage in the Belmont District, and relief is asked. An order was adopted last July by the City Council, requesting the City Engineer to prepare plans for a system for this section, which embraces a drainage area of about 143 acres. Two plans have been prepared: one of a sewer discharging at "Gerry's Landing," and of an estimated cost of $35,000; the other of a sewer discharging into the marginal sewer around a portion of Fresh Pond, with outlet in Alewife Brook, and of an estimated cost of $32,000. He urges neither plan, "as there are objections to each," — the principal objection being a doubt as to what will be the recommendations of the Drainage Commission of the State, which is now considering some general system of metropolitan drainage for the Mystic and Charles River valleys. The appropriations last year for this department were: For construction, $20,000, of which $3,355.23 was not expended; for maintenance, $17,220.16, including the unexpended balance for construction.

STREET LAMPS.

Appropriation for the last year	$32,000.00
Amount expended	31,763.20
Balance unexpended	236.80
Cost per lamp for maintenance of department	$33.72⅓

Number of lamps 953, of which 853 burn gas. Forty-seven new lamps have been located, 20 of them at the expense of the city.

On April 15, 1884, the Cambridge Gas Light Company made a reduction in their price of gas, which saves the city about $1,700 per year.

The Superintendent states that from 1,000 to 1,500 more street lamps are needed to light the city properly; that on our public streets there are distances of one half to one and a half miles without a light. He renews his recommendation of last year, that the city, at its own expense, erect posts and lanterns on these streets, and especially in localities where the people are too poor to bear the expense. He recommends an appropriation of $3,000 for this purpose, which recommendation is submitted for your consideration. A substitution of electric lights for gas on our business streets, he reports, would involve an increased expenditure of about three times the present cost.

POLICE DEPARTMENT.

Near the close of last year this department lost by death its chief, George H. Copeland. He was an able, upright, kind-hearted officer and gentleman, whose loss is severely felt.

The whole number of arrests the past year was 1,723 (1,600 males, 123 females, 1,473 adults, 250 minors). The force at present is seventy-six men. From 1874, when it was increased ten men, till October, 1882, it numbered sixty men. It was then increased seven, and during the past year there has been a further increase of nine, including four new sergeants.

The appropriations and expenses last year were $74,218.59, an increase of more than $6,000 over 1883. In 1883 the appropriations and expenses were $10,000 more than for 1882. This last increase was owing in part to an increase of pay. While I would do nothing to impair in any way the efficiency of the force, so necessary for the good order and welfare of our city, I believe that its efficiency depends more on the character, ability, and fidelity of its members than on their large number. No number, however large, within the limits of a reasonable expense, can thoroughly patrol the great extent of our streets; or be an efficient force, if the members misunderstand or neglect their duty. If each member faithfully and fearlessly does his duty and nothing else, the force must be efficient. To secure this, great care should be used in making appointments, faithful officers should not be removed, nor unfaithful officers retained. Appointments should not be made to reward or obtain political service; nor should such service be required or allowed of any officer. Every officer as a citizen should exercise all his political rights; but to use his office for political purposes is against the law, the interest of the city, and especially his own. The members of the force are meant to be policemen, not politicians. The moment

they forget this, they undertake to control the power above them, their neglect of official duty is overlooked; but their tenure of office depends solely on the success of their political work. I make these remarks, not for the purpose of criticising our present force, which as a whole I believe to be efficient, but that my own views and course may be perfectly understood. The law gives to the Mayor much power over this department; he properly is held responsible for its good management. Whenever an appointment is needed, I shall endeavor, with the assistance of the Committee on Police, to make a practical examination of applicants. This, I believe, will give to the service the best man, and be fairest to all applicants. I shall make no removal without cause. I will support to the full extent of my official power every officer who faithfully and fearlessly does his duty. Whenever there is neglect of duty, I shall not hesitate to ask the Board to support me in applying the remedy.

I suggest for your consideration whether a saving cannot be made in this department, not by reducing the pay, but the force to the extent of four or five men. After some consideration, I believe that that number of the least worthy of its members could be removed, without in any way impairing the efficiency of the force.

In this connection, I would call your attention to the new Civil Service Rules, which go into effect in all the cities of the State on the 30th of next March.

THE CIVIL SERVICE.

Under chapter 320 of the Acts of 1884, "An Act to improve the Civil Service of the Commonwealth and

the Cities thereof," Rules have just been promulgated providing the manner of filling certain offices, as vacancies occur. These Rules are important to the citizens of Cambridge, not only because under them employment in the departments, prisons, and other institutions of the Commonwealth is opened to competitive examination, in which our citizens are entitled to participate, but also because they apply to certain offices in our city. These offices include the Registrar, Inspector, and clerks in the Water Department, the secretary and book-keeper under the Overseers of the Poor, and the clerks in the Assessors' Department. The entire police of the city, with the exception of the Chief, also come under the Rules; so that, after March 30, no one can be appointed to fill a vacancy in the force, except from those found most eligible upon a competitive examination. The Civil Service Commissioners will soon appoint three citizens of Cambridge as a local board to receive applications and conduct examinations. Thereafter, whenever a vacancy occurs in any office under the Rules, it will be the duty of the appointing officer (unless the vacancy is filled by reappointment of the former incumbent) to appoint one of three persons certified to him by the local Examiners as best qualified.

Applicants must be actual residents of Cambridge, and, for the police force, persons of not less than twenty-two nor more than forty years of age, not less than five feet eight inches in height, nor less than one hundred and forty pounds in weight. No vendor of intoxicating liquor, nor person habitually using it to excess, nor person convicted within a year of a crime, can be appointed.

This new system of appointment to the Civil Service is expected to have, as a similar system in the National Government and New York has had, *two* good results. In the *first* place, it will give a better-secured tenure of office to faithful and efficient servants now in the employ of the city, by taking away what is always the chief motive for removal, — the desire and power to give the office to another; and in the *second* place, it will fill any vacancy by the appointment of a person of proved fitness, who will have won the position, not by favor, but by merit only. Hereafter, every citizen of Cambridge, if found equally fit, will have equal chance with every other citizen to gain any position under the Civil Service Rules, whatever may be his political or religious creed, and without regard to personal or political influence.

FIRE DEPARTMENT.

The past year has been one of remarkable exemption from serious losses by fire, owing largely to the efficiency of this department. The number of alarms was eighty.

Losses by fire	$75,535.00
Insurance paid	67,695.64
Actual loss	$7,839.36
Appropriation for last year	$60,000.00
Amount expended	58,138.65
Balance unexpended	$1,861.35

The Chief Engineer recommends the purchase of a hose-wagon in place of hose-carriage No. 3; repairs on the house of Engine No. 5, and of Hook and Ladder No. 1; a tower, with bell and striker, for house of Engine

No. 5; a new building for Hook and Ladder No. 2; and additional fire-alarm boxes, — which recommendations are submitted for your consideration.

ALMSHOUSE AND THE POOR.

From the annual report of the Overseers of the Poor it appears that the number of persons supported by the city at various institutions within the past year was 347. Of this number 268 were at the Almshouse, and 68 at State lunatic hospitals. There were 26 new cases of insane persons the past year, — a very large increase. Eighteen of the mildly insane were removed from the State hospitals to the Almshouse. The average monthly number of inmates at the Almshouse was 144. Much outside aid also has been given.

The expenses of this department have been as follows:

Total expenditures, outside aid (including $9,648.42 paid for the insane at State hospitals)	$19,106.77
Total receipts	4,824.87
Net cost	$14,281.90
Total expenditures, Almshouse, Farm, and Ledge	$19,498.86
" receipts	6,036.46
Net cost	$13,462.40
Total net cost for care of poor	$27,744.30
The expense of collecting house offal, which work is under the voluntary charge of the Overseers of the Poor, has been	$10,666.81
Receipts	6,449.96
Net cost	$4,216.85

The separate building now used at the Almshouse for cases of contagious disease is unfit for that purpose or for habitation. There seems to be an immediate necessity for providing proper quarters for such cases. It would be very desirable if some arrangement could be made with the Trustees of the new Hospital to provide for them. Their care and treatment would be much better than possibly can be given them at the Almshouse. The chance of cholera breaking out amongst us this year makes it imperative for us to take every precaution against it, and to be fully prepared to deal with it.

THE NEW HOSPITAL.

It gives me great pleasure to say that this noble charity is nearly ready to begin its good work. Finely located, with ample accommodations, and under excellent management, it supplies a want long felt. The city has contributed the past year nearly $800 worth of stone in its construction. I have no doubt that willingly and gladly it will always lend a helping hand. The Trustees of the Hospital are desirous that

THE OLD HIGHWAY TO GERRY'S LANDING,

which adjoins the Hospital grounds, and could furnish a much-needed back entrance to them, be laid out and opened for use. A special committee of the Board of Aldermen of 1883, after careful investigation, reported that the way was an ancient highway over 200 years old, which had fallen partially into disuse, but the rights of the city and public in it had not been lost; they recommended that these rights at once be asserted. No

decisive action in this direction has yet been taken. As delay in asserting title in time loses the title, and as adverse private claims to this land are and for some years have been made, I recommend that, without further delay, the rights of the public to it be asserted by the city.

THE CAMBRIDGE CEMETERY.

The most important question for your consideration in this department is the extension of the Cemetery. For two years this need has been felt and considered by a special committee of the City Council, co-operating with the Cemetery Commissioners. This committee, after much deliberation, recommended an extension to the west, by purchase of the adjoining Winchester estate, which contains $18\frac{4}{10}$ acres of high land well covered with ornamental trees, and admirably adapted for a cemetery. The estate is within the limits of Watertown. Near the close of last year the City Council voted to purchase said estate for $50,000, provided the consent of Watertown, necessary to make the extension, was first obtained. I learn with much regret that Watertown within a few days has refused to consent, though full reimbursement was offered her for any loss in taxes. As the proposed extension is perhaps the only one practicable, and certainly is the cheapest and best, I would suggest that authority to make it be asked of the Legislature, unless Watertown reconsiders her refusal.

The appropriation and expenses, last year, of this department were	$14,312.85
Receipts	12,533.77
Net expense	$1,779.08

I now ask your attention, very briefly, to a few suggested improvements, which during the year you will have to consider. The most important is the

NEW BRIDGE TO BOSTON.

Upon petition of the City Council of 1881, acting on the request of a very large number of our citizens, the Legislature of 1882 granted authority to the cities of Cambridge and Boston to build a new bridge, on stone or iron piers, across Charles River, from Front Street (extended) to West Chester Park, Boston. For three years the matter has been considered by special committees of the two city governments, acting conjointly, and with the assistance of their city engineers. During the past year much progress has been made. After making borings, it was thought desirable for each engineer to submit a plan and estimates, for comparison and selection by the joint committee. Such plans have been prepared, substantially the same in design and of the same estimated cost, and the joint committee have voted to recommend to both city governments favorable action. The design is of a high level deck bridge of iron, on stone piers, about 2,000 feet long. Its estimated cost, if 70 feet wide, with 50 feet draw, is $416,000; if 80 feet wide, with 70 feet draw, $475,428; if 100 feet wide, with 80 feet draw, $594,285. The cost of the bridge will probably be divided equally between both cities.

Such a bridge would be a very great improvement and benefit to this city. It would make a wide and nearly straight avenue about five miles long from Harvard Square to Dorchester Five Corners; would very

much shorten the distance to the Back Bay, the new Boston Parks, South Boston, Roxbury, and Dorchester; and would, I believe, develop new lands, and increase materially the valuation of real estate in Cambridge. What weight shall be given to these benefits, and whether or not they make such a bridge almost a necessity, it is for you to determine.

CHARLES RIVER EMBANKMENT.

This work, carried on by a private company, contemplates the filling and grading of about 6,000,000 feet of flats owned by it, adjoining the river between West Boston and Brookline Bridges, and south of Main Street, extending out to the Harbor Commissioners' line. About one thousand feet of sea-wall have been built. The Company has done little work the past year, waiting for the cities of Boston and Cambridge to take favorable action in the matter of building the new bridge, the building of which would greatly aid and hasten its work. As the result of this work will be a great public benefit, and add much valuable taxable property to the city, I am confident that the Company will receive from you all the assistance and encouragement that can properly be given.

PARK IN WARD III.

This improvement, recommended by my predecessors of 1869, 1870, and 1871, has the past year received the attention of the City Government. A special committee was appointed and a public hearing had, but no action was taken except referring the matter to the next City Government. There is no doubt that this ward has less

public ground for health, recreation, and adornment than any part of the city; that a park would be a great benefit to it, and that there is unoccupied land available for this purpose, — but whether the city can or should incur this expense at present, you will carefully consider. The building of a drive-way around Fresh Pond, and all other suggested improvements, I know will receive your careful attention.

Gentlemen of the City Council: —

With this general and imperfect review of the city's burdens, needs, and desires, I leave them for your action, assured that her interests are safe in the hands of her trusted servants. Grateful to our fellow-citizens for their confidence in us, believing that with us go their good wishes and God-speeds, let us by earnest effort and faithful work merit that confidence, and realize these good wishes. As required by law, we begin our service to-day by an individual appeal to Almighty God to attest our pledge to fidelity in duty. The instinctive prompting of every Christian heart, conscious of its dependence and need, leads us to seek from the same Divine Power such aid, guidance, strength, and support as will insure the keeping of these solemn pledges. The foundation of our city was laid by our pious ancestors in prayer and faith. As with our fathers, so with us may God ever be, and to us a conscious presence. For with us in our enlarged, as with them in their narrow estate, it is alike true, "except the Lord build the house, they labor in vain that build it; except the Lord keep the city, the watchman waketh but in vain."

ANNUAL REPORT

OF

THE COMMITTEE ON FINANCE.

The Committee on Finance for the year 1884 herewith submits the customary annual report.

Those who are familiar with the work of the various city departments carried on during the past year hardly need to be informed that the improvements and repairs, projected in almost every direction, could only be followed by an increased outlay of the public money. The expenditure under the different heads in the year 1883 was on so large a scale that a hope was encouraged that this year might witness a lightening of the public burden, through a reduction of the rate of taxation. It is needless to say that the hope thus fostered was not realized.

Exigencies arose from time to time, calling for extraordinary expenditure, which could not have been foreseen at the beginning of the year. Some of the ordinary appropriations also required reinforcement, perhaps by reason of too much pruning on the part of the committee itself, from the amount asked for by those in charge of such appropriations, at the time of making up the annual estimates.

These estimates, as submitted in the month of February last, were as follows: —

Appropriations, 1884.

Expenses on appropriation accounts	$1,171,330.00
Less estimated revenue	275,055.00
Balance appropriations as estimated	$896,275.00
Amount of State tax, 1883	44,835.00
" County tax, 1883	32,760.66
" National Bank tax, 1883	5,626.08
" Temporary Loan of 1883	155,000.00
	$1,134,496.74

Contra.

Balance in city treasury, Dec. 1, 1883, as per Auditor's account	$1,628.57	
Amount of Corporation tax from Commonwealth	49,414.28	
Amount of National Bank tax from Commonwealth	19,429.39	
Amount of uncollected taxes, estimated . .	55,000.00	
" city lands, sale account	25,000.00	
" notes receivable	7,000.00	
		$157,472.24
Balance		$977,024.50

By the foregoing it appears that the balance required to be raised by taxation was $977,024.50. The same feeling in the matter of a possible increase of the rate of taxation which governed the action of the committee of the previous year, in relation to the temporary loan, actuated this committee also in its recommendation as to the amount to be raised by taxation. While the committee could not recommend that the whole of the increased floating debt should be put into the tax levy for a single year, it was unanimous in the opinion that a beginning ought to be made in the direction of its payment. It was accordingly decided to recommend that the amount required for the expenses of the year should be provided for as follows: —

Amount to be raised by taxation	$835,000.00
Water Works, construction, by Water Loan	15,000.00
Renewal of Temporary Loan	127,024.50
	$977,024.50

By this arrangement it was expected that the reduction of the floating debt in the year 1884 would be as follows: —

Amount of Temporary Loan, Dec. 1, 1883	$155,000.00
Renewal of Temporary Loan in 1884	127,024.50
Expected payment in 1884	$27,975.50

Owing to the causes hereinbefore stated, the results, as prefigured by the committee in its February budget, were not in all respects realized.

As will be hereinafter shown, this increase of indebtedness is not wholly attributable to over-expenditure in the appropriation accounts, inasmuch as the monthly statement of the Auditor, showing the condition of the city treasury to Dec. 1, 1884, and concluding the financial year, exhibits a net reduction in the aggregates of expenditures in these accounts below the footings of the preceding year in the sum of $28,635.25. But for the unforeseen demands upon the treasury, hereinbefore referred to in these various departments, arising months after the estimates of expenses were made up, this reduction would have been doubled in amount. The decrease of expenditure above mentioned is, however, principally owing to the diminution of the amounts called for upon the appropriations for interest and sinking funds, the footing of which largely exceeds that of the increased expenditure upon many of the remaining accounts.

The total expenditure under appropriation heads in 1883 was		$1,256,394.35
Less Water Works account		189,413.19
Balance		$1,066,981.16
Total expenditure under appropriation heads in 1884	$1,241,062.48	
Less Water Works account	202,716.57	
		1,038,345.91
Reduction in 1884		$28,635.25

The following table shows the difference in amounts expended between the footings of the years 1884 and 1883 respectively, the Water Works accounts being omitted, as not being included in the tax levy: —

CITY ACCOUNTS.	Expended. 1884.	Expended. 1883.	Increase.	Decrease.
Abatements and Discounts.....	$44,137.14	$45,972.62	.....	$1,835.48
Bridges.....	13,499.72	2,345.30	$11,154.42	.....
Bridges (West Boston, Craigie, and Prison Point).....	8,986.85	8,553.00	433.85	.....
Cambridge Public Library.....	6,494.15	7,455.50	.....	961.35
Cemeteries	14,312.85	15,908.73	.....	1,595.88
Engineering	7,047.77	6,772.23	275.54	.....
Fire Department.....	58,138.65	59,641.15	.....	1,502.50
Health Department.....	2,286.76	1,426.90	859.86	.....
Incidental Expenses.....	51,979.76	31,429.71	20,550.05	.....
Interest	156,402.37	189,908.33	.....	33,505.96
Lighting Streets.....	31,763.20	28,001.16	3,762.04	.....
Pauper Department	19,106.77	14,869.84	4,236.93	.....
Pauper Department (Almshouse)	19,447.05	18,853.64	593.41	.....
Pauper Department (House Offal)	10,666.81	9,776.50	890.31	.....
Police Department	74,218.59	68,101.37	6,117.22	.....
Salaries	22,629.15	22,180.37	448.78	.....
School Department. (Drawing Schools).....	949.70	749.00	200.70	.....
School Department (Evening Schools).....	1,253.22	.....	1,253.22	.....
School Department (Incidental Expenses).....	1,467.18	1,249.40	217.78	.....
School Department (Salaries)..	152,766.00	144,457.60	8,308.40	.....
School Department (Text-Books and Stationery).....	14,761.90	2,855.49	11,906.41	.....
School-Houses (Care and Repair)	34,926.48	28,946.83	5,979.65	.....
School-Houses (New, and Furniture).....	17,304.34	16,553.45	750.89	.....
Sewers (Construction)	16,644.77	26,779.87	.....	10,135.10
Sewers (Maintenance)	17,220 16	11,495.74	5,724.42	.....
Shade-Trees and Public Grounds	4,119.18	4,035.42	83 76	.....
Sinking Funds.....	80,225.00	163,665.00	.....	83,440.00
State Aid	13,450.50	13,864.50	.....	414.00
Stationery and Printing.....	3,276.07	3,225.61	50.46	.....
Street Department (Construction)	.....	.....	.....	.....
Street Department (Paving)....	18,176.43	7,158.96	11,017.47	.....
Street Department (Repairs)...	88,819.31	84,001.84	4,817.47	.....
Street Department (Watering)	31,842.08	24,989.20	6,852.88	.....
Street Department (Widening)	.....	1,706.40	.....	1,706.40
Surrendered Estates (Care and Repair)	26.00	50.50	.....	24.50
Totals.....	$1,038,345.91	$1,066,981.16	$106,485.92	$135,121.17

Decrease of expenditure on sundry appropriations in 1884	$135,121.17
Increase of expenditure on sundry appropriations in 1884	$106,485.92
Net decrease, as previously stated	$28,635.25

Among the items of extraordinary expenditure included in the foregoing table may be enumerated the following, which were not contemplated in making up the annual budget : —

Bridges, extra repairs required upon River Street and Western Avenue bridges		$3,499.72
Cemeteries, increased expenses at Cambridge Cemetery		2,312.85
Health Department, cost of sanitary inspection of the city		686.76
Incidental expenses, amount of State tax for 1880, 1881, and 1882, on annexed district, paid town of Belmont	$2,461.76	
Expenses connected with proposed new bridge across Charles River	684.95	
Extra expenses of elections under the new registration laws	3,100.00	
Widening North Avenue bridge across Alewife Brook	459.41	
		6,706.12
(The actual increase of this appropriation was $6,979.76.)		
Pauper Department, outside aid		5,106.77
" " almshouse		947.05
" " house offal		666.81
Police, extra cost		1,218.59
School Department, excess of cost on drawing schools, evening schools, incidentals, and salaries — over appropriations		2,036.10
School Department, text-books, &c., additional cost under legislative Act of 1884		12,000.00
School-Houses, care and repairs, unanticipated repairs required on many of the school-houses		4,926.48
Sewers (maintenance), extra cost over the amounts appropriated for sewers, construction and maintenance		1,864.93
Street Department (repairs), extra cost		1,819.31
Street Department (watering), bill of Cambridge Water Board, water used upon the streets to Nov. 1, 1884		6,131.71
		$49,923.20

As may be seen by a reference to the report of the Committee on Finance for the year 1882, an effort was made to include within the financial year the payment of all indebtedness incurred therein. In all previous years, so far as known, the expenses incurred and included in the monthly warrant for November went forward to the following month, beginning a new financial year, for payment. This irregularity, if it may be so termed, was remedied, as a reference to the aforesaid report will show.

The adjustment thus made was with reference only to the monthly warrants for bills incurred under the ordinary appropriations.

The annual settlement of accounts with the Commonwealth, and the payment of the county tax, still continued to be made as theretofore in the month of December, thus going forward to the following year. In respect of these accounts a new departure has been made, they being now placed in the financial year where they belong.

The following amounts, usually received in December, have been received from the Commonwealth, and credited among the receipts of this year: —

RECEIVED FROM COMMONWEALTH.

Corporation tax, 1884	$43,437.51
National Bank tax, 1884	21,215.36
State aid, Acts 1879, chap. 301	10,673.50
Support of State paupers	65.73
Support of State paupers, temporary	83.36
Burial of State paupers	135.00
State aid, Acts 1879, chap. 252	1,285.00
	$76,895.46

PAID THE COMMONWEALTH.

State tax, 1884	$59,780.00	
National Bank tax, 1884	5,752.52	
		65,532.52
Balance received by city		$11,362.94

The county tax, usually paid in December, has also been paid, the same amounting to $27,496.80.

The amount borrowed on temporary loans in 1884 was as follows: —

Payable from taxes of 1884		$540,000.00
Payable from taxes of 1885		171,000.00
		$711,000.00
In 1883, payable from taxes of 1883	$500,000.00	
In 1883, payable from taxes of 1884	155,000.00	
		655,000.00
Increase in 1884		$56,000.00

The amount called for by the Commissioners of the Sinking Funds, as necessary to be raised by taxation for these funds in the year 1884, was $115,265. By the provisions of the statute relating to municipal indebtedness, the annual payment of a certain percentage upon such indebtedness is required to be raised by taxation and paid into a sinking fund in each year.

Of the funded liabilities of this city the amount of $688,000 was due and payable in the year 1884. Of this amount the sum of $438,000 became due April 1. This consisted of ten-year bonds, upon which 8 per cent was required to be raised annually by taxation for each year; ten such payments being required. The amount per year at such percentage on this latter sum is $35,040.

Inasmuch as the payment of this sum of $438,000 was to be made on the first day of April, and all taxes are laid as of the first day of May, this committee adjudged that a liability paid before the latter date should not be regarded as subject to the 8 per cent tax for this year. With this view the committee deducted the sum of $35,040 from the amount of $115,265, as named by the Commissioners, leaving a balance in the sum of $80,225, which sum was finally appropriated for the Sinking Funds. The matter of this deduction was referred to the City Solicitor, and met his approval.

A majority of your committee is now of the opinion that this deduction was an error, and that the same should have been included in the tax levy. In the case of ten-year bonds, it is clear that ten annual payments of 8 per cent should be made into the Sinking Funds. It is apparent, with reference to these bonds, that only nine such payments have been made, and that the amount deducted as aforesaid should be supplied to the Funds. Had the deduction not been made, there would have been an increase of the rate of taxation this year of seventy cents per thousand dollars.

The sum actually appropriated for the Sinking Funds was advanced to the Commissioners in anticipation of the November payment.

The amount of interest received from the Commissioners upon the advanced payment was	$1,660.21
The amount paid for interest upon the temporary loans of 1883 and 1884, payable from the taxes of 1884, was .	$15,795.37
Interest so paid in 1883	14,880.25
Balance	$915.12
Amount of interest received on Sinking Funds advanced .	1,660.21
Decrease of interest over 1883	$745.09
Of the amount borrowed on temporary loan there was obtained in 1884, payable from the taxes of 1885, the sum of	$171,000.00
So borrowed in 1883, payable from taxes of 1884 . . .	155,000.00
Increase of floating debt	$16,000.00

The cause of this increase may be accounted for as follows: —

Paid temporary loan of 1883		$155,000.00
" county tax of 1884		27,496.80
" water-bill (streets), 1884		6,131.71
" text-books, &c., Act of 1884		12,000.00
		$200,628.51
Received, loan payable in 1885	$171,000.00	
Balance, received from Commonwealth . .	11,362.94	
		182,362.94
Balance, mostly paid by increase of temporary loan . . .		$18,265.57

The accounts with the Commonwealth and the County of Middlesex, heretofore included in the annual budget prepared in the month of February, may hereafter be omitted, and need not appear in the annual tax levy, except as they are transmitted to the Collector by the Board of Assessors.

The amount of the bill of Cambridge Water Board, for water used upon the streets during the season of 1884, is an item not before included in the year during which such bill has been incurred. A reference to the Auditor's report for 1884 will show that in this year two such bills for water have been paid, namely

for 1883 and 1884 respectively. The item for text-books and stationery, already mentioned herein, is another extraordinary expenditure, required by the legislative Act of 1884, and the necessity therefor was not known until nearly the middle of the year.

The amount of cash in the treasury at the close of business, Nov. 29, 1884, was $109,444.16. From this sum the following amounts are due: —

Unpaid bills prior to Nov. 1, 1884	$7,218.61	
Unpaid bills of November draft, payable in December	101,067.35	
		$108,285.96
Balance in treasury, per Auditor's account . . .		$1,158.50

The committee met at the Treasurer's office, at 2 P.M., on Saturday, November 29, and counted the cash then on hand, and the same was found to agree with the statements of the Treasurer and Auditor. A subsequent meeting was also held at the Treasurer's office, and the accounts respectively kept by both officers were examined and compared. All the accounts were found to be correct.

Following are the customary tables from the Assessors' books: —

Polls and Valuation of Estates in 1884.

Wards.	Polls.	Personal.	Real Estate.	Total.	Dwellings.
Ward 1.....	2,723¾	$5,038,200	$10,757,300	$15,795,500	1,677
Ward 2.....	4,259	3,373,545	10,488,600	13,862,145	2,377
Ward 3.....	3,085¼	1,425,446	6,852,100	8,277,546	1,403
Ward 4.....	3,680¼	1,429,200	8,063,700	9,492,900	2,296
Ward 5.....	1,651	993,100	5,127,500	6,120,600	1,028
Total.....	15,399¼	$12,259,491	$41,289,200	$53,548,691	8,781

Polls and Valuation of Estates in 1883.

Wards.	Polls.	Personal.	Real Estate.	Total.	Dwellings.
Ward 1.....	2,642	$5,093,500	$10,247,100	$15,340,600	1,636
Ward 2.....	4,137	3,312,065	10,284,300	13,596,365	2,341
Ward 3.....	2,934	1,373,575	6,643,800	8,017,375	1,387
Ward 4.....	3,510	1,338,300	7,800,700	9,139,000	2,233
Ward 5.....	1,647	858,200	4,845,800	5,704,000	975
Total.....	14,870	$11,975,640	$39,821,700	$51,797,340	8,572

Comparative statement of polls, valuation, and dwellings, showing increase under each heading over the figures of the preceding year: —

Years.	Polls.	Valuation.	Dwellings.
1884.....	15,399¼	$53,548,691	8,781
1883.....	14,870	1,797,340	8,572
Increase.....	529¼	$1,751,351	209

The amount assessed upon the foregoing polls and valuations was, —

In 1884	$936,421.70
In 1883	879,225.37
Increase	$57,196.33

It thus appears that the sum of $57,196.33 was raised by taxes in the year 1884 over the amount so raised in the year 1883. There was also an increase of the valuation upon property in the sum of $1,751,351.

The rate of taxation was fixed by the Assessors at $16.80 per $1,000, it being an increase of 40 cents per $1,000 over the rate of 1883. This was subject to the customary discount of four per cent to early tax-payers.

The Committee on Finance of 1884 has finished its work, and its intent in this report has been to review some of the financial transactions authorized by the City Council, and partially carried on under its direction. For the increased expenses shown in the reports of the Auditor and Treasurer it has no apology to present; nor is such needed. The cause of the increase has been explained, so far as was deemed necessary. It was indeed hoped that a reduction might be made in the amount of temporary loan, and in the preparation of the budget submitted in February last such reduction, to the amount of $27,975.50, was thought to be provided for. Such a result was, however, ultimately proved to be impossible, owing to the unexpected increase of expenses on the one hand, and the falling off of estimated receipts on the other. Instances of such deficiencies, as compared with the estimates, may be named, as follows: —

Estimate from land sales	$25,000.00	
Amount actually received	11,168.32	
Deficiency from estimate		$13,831.68
Estimate from notes receivable	$7,000.00	
Amount actually received	2,002.72	
Deficiency from estimate		4,997.28
Uncollected taxes Dec. 1, 1884	$79,726.52	
Uncollected taxes Dec. 1, 1883	67,482.66	
Deficiency		12,243.86
Total		$26,572.82

THE UNFORESEEN EXPENDITURES.

Text-books	$12,000.00	
Water-bill	6,131.71	
Amount		$18,131.71
Added to the deficiency, makes a total unforeseen shortage of		$44,704.53
The reduction hoped for in the floating debt amounted to		$27,975.50
The actual increase is		16,000.00
Total deficiency in estimates		$43,975.50

If we place this latter footing against that of the preceding aggregate, it is readily seen wherein lies the reason of the non-fulfilment of the hopes formed at the beginning of the year.

When we reflect that ours is a city of upwards of 60,000 souls, with its numbers enlarging year by year, our citizens constantly demanding more and greater facilities in the direction of streets and sewers, and, above all, in relation to our schools, it is not surprising that the cost of these necessities of civilization sometimes outruns our calculations.

The increase of the temporary loan need not cause uneasiness, and should not be recorded to the discredit of the financial management of this year. We have only to consider the settlements made through such increase, embracing matters that, if not covered by the additional loan, would otherwise have inevitably helped to augment the taxes of the next year.

JAMES A. FOX,
S. S. SLEEPER,
SAMUEL W. McDANIEL,
GEO. H. HOWARD,
C. G. H. BENNINK,
WM. T. NEILON,
W. F. BRADBURY,
TIMOTHY McCARTHY,
ELBRIDGE G. STEVENS,

Committee on Finance.

ANNUAL REPORT

OF THE

AUDITOR OF ACCOUNTS.

Gentlemen of the City Council: —

THE undersigned, in compliance with a city ordinance, herewith presents the thirty-eighth annual report of the receipts and expenditures of the city of Cambridge, being for the year ending Nov. 30, 1884: —

Total receipts for the year	$2,798,830.55
Add the amount in treasury, Dec. 1, 1883 . .	1,628.57
	$2,800,459.12
Total expenditures for the year	2,799,300.62
Balance in treasury, Nov. 30, 1884	$1,158.50

There has been an increase in the water debt of the city during the year of $36,000, caused by the issue of thirty-six water loan bonds of $1,000 each, payable in ten years, at an annual interest of 4 per cent.

Of the city funded debt there have matured during the year: —

Bridge Loan bonds	$94,000.00
Building Loan bonds	198,000.00
Funding Loan bonds	100,000.00
Low Land Loan bonds	296,000.00
Total	$688,000.00

The whole amount necessary to pay the foregoing matured bonds has been provided by the Commissioners of the Sinking

Funds; such of them as have not yet been presented for payment, amounting to $15,000, being included in the November draft.

The following is a statement of the temporary loans negotiated during the year, and the rates of interest on the same: —

Jan.	1,	1884,	$100,000	Int.	3 7/8	per cent, due	Oct. 11, 1884.
Feb.	9,	"	55,000	"	3 7/8	" "	Oct. 13, "
March	7,	"	55,000	"	3 3/4	" "	Oct. 13, "
April	1,	"	40,000	"	3 3/4	" "	Oct. 14, "
April	10,	"	40,000	"	3 3/4	" "	Oct. 14, "
June	18,	"	50,000	"	4	" "	Oct. 14, "
July	1,	"	100,000	"	4	" "	Oct. 15, "
July	10,	"	100,000	"	5	" "	Oct. 15, "
			$540,000				

Oct.	16,	1884,	$50,000	Int.	4	per cent, due	Oct. 10, 1885.
Nov.	8,	"	70,000	"	4	" "	Oct. 10, "
Nov.	29,	"	51,000	"	4	" "	Oct. 10, "
			$171,000				

THE CITY DEBT.

		1884.	1883.
Funded City Loan		$1,762,000.00	$2,450,000.00
Funded Water Loan		1,459,500.00	1,423,700.00
Temporary Loan		171,000.00	155,000.00
Trust Funds: —			
Dowse Institute Fund	$10,000		
Sanders Temperance "	10,000		
Daniel White Charity "	5,000		
Fay Fund	1,000		
Cemetery Fund	6,250		
		32,250.00	31,250.00
City note to Sinking Fund of Water Works		200,000.00	
Amounts carried forward .		$3,624,750.00	$4,059,950.00

	1884.	1883.
Amounts brought forward .	$3,624,750.00	$4,059,950.00
Amount due Commissioners of Sinking Funds for 1884. . .	35,040.00	
National Bank tax		5,626.08
		$4,065,576.08
Less amount due from State . .		1,874.67
The gross city debt	$3,659,790.00	$4,063,701.41
Less amount in both sinking funds $1,377,358.10 and cash in treasury 1,158.50	1,378,516.60	1,618,842.71
The net city debt	$2,281,273.40	$2,444,858.70

The decrease of the net city debt from last year . $163,585.30

THE FUNDED DEBT.

Following is a statement of the total funded debt of the city, with the dates of maturity and rates of interest thereon: —

Bridge Loan.

Due July 1, 1885, interest 6 per cent, 10 years . .						$26,000.00

Building Loan.

Due July 1, 1885, interest 6 per cent, 10 years . .						17,000.00

City Loan.

Due July 1, 1886, int.	6	per cent,	15	yrs.	$100,000	
April 1, 1889, "	5	"	25	"	100,000	
July 1, 1890, "	6	"	20	"	20,000	
Jan. 1, 1893, "	5	"	30	"	150,000	
						370,000.00

Funding Loan.

Due July 1, 1885, interest 6 per cent, 10 years . .						24,000.00

Land Loan.

Due July 1, 1893, interest 6 per cent, 20 years . .						10,000.00
Amount carried forward						$447,000.00

Amount brought forward							$447,000.00

Low Land Loan.

Due July 1, 1885,	int.	6	per cent,	10	yrs.	$122,000
July 1, 1886,	"	6	"	10	"	60,000
Oct. 1, 1887,	"	5	"	10	"	120,000
						302,000.00

Paving Loan.

Due July 1, 1893,	int.	6	per cent,	20	yrs.	$100,000
July 1, 1894,	"	6	"	20	"	130,000
July 1, 1895,	"	6	"	20	"	25,000
						255,000.00

Sewer Loan.

Due Oct. 1, 1895,	int.	6	per cent,	20	yrs.	$20,000
July 1, 1896,	"	6	"	20	"	29,000
July 1, 1903,	"	6	"	30	"	136,000
July 1, 1904,	"	6	"	30	"	295,000
July 1, 1905,	"	6	"	30	"	144,000
						624,000.00

Street Loan.

Due July 1, 1893, interest 6 per cent, 20 years . .	13,000.00

Street-Widening Loan.

Due July 1, 1886,	int.	6	per cent,	10	yrs.	$7,000
July 1, 1903,	"	6	"	30	"	10,000
July 1, 1904,	"	6	"	30	"	90,000
July 1, 1905,	"	6	"	30	"	14,000
						121,000.00

Total of funded City Loan	$1,762,000.00

Water Loan.

Due July 2, 1886,	int.	6	per cent,	20	yrs.	$100,000	
April 1, 1887,	"	6	"	20	"	150,000	
April 1, 1888,	"	6	"	20	"	175,000	
May 1, 1889,	"	6	"	20	"	112,000	
Amounts carried forward						$537,000	$1,762,000.00

Amounts brought forward . . .						$537,000	$1,762,000.00
Due July 1, 1890, int.	6	per cent,	20	yrs.		60,000	
May 1, 1891,	6	"	20	"		50,000	
July 1, 1892,	6	"	20	"		335,000	
April 1, 1894,	6	"	20	"		150,000	
Nov. 1, 1894,	4	"	10	"		36,000	
April 1, 1895,	6	"	20	"		160,000	
July 1, 1896,	6	"	20	"		103,000	
July 1, 1897,	6	"	20	"		16,000	
July 1, 1898,	5	"	20	"		12,500	
Total Water Loan							1,459,500.00
Total funded debt							$3,221,500.00

Recapitulation.

Amount of funded City Loan upon which interest is at 6 per cent		$1,392,000.00
Amount of funded City Loan upon which interest is at 5 per cent		370,000.00
		$1,762,000.00
Amount of Water Loan upon which interest is at 6 per cent	$1,411,000.00	
Amount of Water Loan upon which interest is at 5 per cent	12,500.00	
Amount of Water Loan upon which interest is at 4 per cent	36,000.00	
		1,459,500.00
		$3,221,500.00

RECEIPTS.

The receipts of the year, as credited to the several city accounts, are as follows: —

No.		
1.	Notes Receivable	$2,002.72
2.	Bridges	113.50
3.	Bridges — West Boston, Canal, and Prison Point .	224.46
	Amount carried forward	$2,340.68

No.		
	Amount brought forward	$2,340.68
4.	Cambridge Public Library	2,820.49
5.	Cemeteries	12,533.77
6.	Cemetery Fund	1,000.00
7.	City Lands	2,761.76
8.	Engineering	20.00
9.	Fire Department	706.18
10.	Incidental Expenses	39,864.07
11.	Interest	3,890.05
12.	Lighting Streets	63.42
13.	Loan, Temporary	540,000.00
14.	Loan, payable from taxes of 1885	171,000.00
15.	Loan, Water	36,000.00
16.	Pauper Department	4,824.87
17.	Pauper Department, Almshouse	6,036.46
18.	Pauper Department, House Offal	6,449.96
19.	Police Department	5,242.96
20.	School Department, Salaries	997.12
21.	School-Houses, Care and Repairs	3.06
22.	Sewers, Construction	10,045.56
23.	Sewers, Maintenance	1,982.89
24.	Shade-Trees and Public Grounds	34.75
25.	Sinking Funds, Commissioners of	688,000.00
26.	State Aid	25,064.50
27.	Street Department, Paving	1,614.76
28.	Street Department, Repairs	1,167.00
29.	Street Department, Watering	9,383.75
30.	Surrendered Estates, Care and Repairs	132.00
31.	Surrendered Estates, Sale Account	8,406.56
32.	Tax, Corporation, for 1883 and 1884	92,851.79
33.	Tax, National Bank	40,644.75
34.	Tax, Lien Account	116.35
35.	Taxes of 1880	107.60
36.	Taxes of 1881	74.00
37.	Taxes of 1882	1,816.14
38.	Taxes of 1883	53,747.05
39.	Taxes of 1884	858,212.12
40.	Water Works, Construction	1,207.20
41.	Water Works, Rates, Fines, etc.	162,811.27
42.	Water Works, Supplies	4,855.66
		$2,798,830.55

EXPENSES.

The disbursements of the year, as charged to the city accounts, are as follows: —

No.		
1.	Abatements and Discounts	$44,137.14
2.	Bridges	13,499.72
3.	Bridges — West Boston, Craigie, and Prison Point	8,986.85
4.	Cambridge Public Library	6,494.15
5.	Cemeteries	14,312.85
6.	Engineering	7,047.77
7.	Fire Department	58,138.65
8.	Health Department	2,286.76
9.	Incidental Expenses	51,979.76
10.	Interest	156,402.37
11.	Interest on Water Loan	84,451.00
12.	Lighting Streets	31,763.20
13.	Loan, Temporary	540,000.00
14.	Loan, Bridge	94,000.00
15.	Loan, Building	198,000.00
16.	Loan, Funding	100,000.00
17.	Loan, Low Land	294,000.00
18.	Loan, payable from taxes of 1884	155,000.00
19.	Pauper Department	19,106.77
20.	Pauper Department, Almshouse	19,447.05
21.	Pauper Department, House Offal	10,666.81
22.	Police Department	74,218.59
23.	Salaries	22,629.15
24.	School Department, Drawing Schools	949.70
25.	School Department, Evening Schools	1,253.22
26.	School Department, Incidental Expenses	1,467.18
27.	School Department, Salaries	152,766.00
28.	School Department, Text-Books and Stationery	14,761.90
29.	School-Houses, Care and Repairs	34,926.48
30.	School-Houses, New, and Furniture	17,304.34
31.	Sewers, Construction	16,644.77
32.	Sewers, Maintenance	17,220.16
33.	Shade-Trees and Public Grounds	4,119.18
34.	Sinking Funds	80,225.00
35.	Sinking Fund of Water Works	42,705.00
	Amount carried forward	$2,390,911.52

No.		
	Amount brought forward	$2,390,911.52
36.	State Aid	13,450.50
37.	Stationery and Printing	3,276.07
38.	Street Department, Paving	18,176.43
39.	Street Department, Repairs	88,819.31
40.	Street Department, Watering	31,842.08
41.	Surrendered Estates, Care and Repairs	26.00
42.	Surrendered Estates, Sale Account	249.51
43.	Tax, National Bank	11,378.60
44.	Tax, County	60,257.46
45.	Tax, State	104,615.00
46.	Tax Lien Account	737.57
47.	Water Works, Construction	18,900.00
48.	Water Works, Maintenance	38,036.87
49.	Water Works, Rates, Fines, etc.	769.00
50.	Water Works, Supplies	5,234.96
51.	Water Works, Construction, Stony Brook additional water supply	12,619.74
		$2,799,300.62

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A statement in detail of the receipts and expenditures of each department, with its appropriations and the balance unexpended, is given in the following pages.

FRANKLIN PERRIN,
Auditor of Accounts.

CAMBRIDGE, MASS., December, 1884.

For items of interest to the reader see the end of this report, pages 103–107.

DETAILED STATEMENT,

SHOWING RECEIPTS AND EXPENDITURES, AND AMOUNTS APPROPRIATED UNDER EACH CITY ACCOUNT, FOR THE FINANCIAL YEAR ENDING NOV. 30, 1884.

Abatements and Discounts.

Amount appropriated	$42,000.00
Add amount transferred to	2,137.14
Amount carried forward	$44,137.14

Amount brought forward		$44,137.14
EXPENDED.		
For Abatement of taxes	$11,210.31	
Discounts on taxes	32,926.83	
As per item No. 1 of expenses		$44,137.14

Notes Receivable.

On account of mortgage notes held by the city for surrendered estates (sale account), as per item No. 1 of receipts	$2,002.72

Bridges.

Amount appropriated		$10,000.00
Add amount transferred to		3,500.00
		$13,500.00
Deduct amount transferred from		.28
		$13,499.72
RECEIVED.		
For old planking, as per item No. 2 of receipts		$113.50
EXPENDED.		
For Bridge-weights		$58.93
Caulking and oakum		218.71
Castings		43.98
Draw tender		50.00
Fuel		14.38
Hardware		262.13
Iron-work		843.15
Labor		6,226.05
Lumber and repairs		4,394.07
Oil		6.12
Paints and glass		28.35
Piles		714.90
Stone		66.78
Stove and stove-pipe		17.56
Teaming		8.00
Removing pier		50.00
Use of engine, screw, and tools . .	496.61	
As per item No. 2 of expenses		$13,499.72

Bridges (West Boston, Canal, and Prison Point).

Amount appropriated	$9,800.00
Estimated revenue	200.00
	$10,000.00
Deduct amount transferred from	1,013.15
	$8,986.85

RECEIVED.

For sundries, as per item No. 3 of receipts	$224.46

EXPENDED.

For Car-tickets	$7.20	
Carting dirt	31.50	
Court fees	12.44	
Electric lights	1,189.50	
Edge-stones	4.50	
Fuel	223.94	
Gravel	19.00	
Hardware and tools	172.59	
Labor, as per pay-roll	1,999.92	
Labor, extra cleaning	158.53	
Lanterns	.88	
Lumber	1,546.93	
Legal services	7.50	
Main boom	19.38	
Painting, paints, and supplies	68.06	
Plumbing	3.22	
Paving, labor, and stone	1,131.47	
Printing	13.07	
Repairs, carpenter-work	852.85	
" on roof	6.59	
" iron-work	91.80	
Salary, W. J. Marvin, commissioner	500.00	
" H. M. Wightman, civil engineer [1]	400.00	
" C. S. Parsons, clerk [1]	100.00	
Amounts carried forward	$8,560.87	$8,986.85

[1] The salary for 1883 and 1884. It has been the custom to give in the report the above salaries for the year previous to the one for which the report was made. The Commissioner has included the salaries for both years, to conform to our method of showing the expenditures for the financial year.

	Amounts brought forward . . .	$8,560.87	$8,986.85
For	Stationery	11.48	
	Water	14.50	
	Watering roadway	400.00	
	As per item No. 3 of expenses		$8,986.85

Cambridge Public Library.

Amount appropriated		$4,000.00
Estimated revenue		2,500.00
		$6,500.00
Deduct amount transferred from		5.85
		$6,494.15

RECEIVED.

For	Catalogues and fines	$134.56	
	Dog-tax	2,685.93	
	As per item No. 4 of receipts	$2,820.49	

EXPENDED.

For	Advertising	$4.00	
	Books	1,247.04	
	Binding books	436.99	
	Carpenter-work	31.04	
	Clock repairs	3.00	
	Card	10.00	
	Carpeting	90.25	
	Covering doors	7.50	
	Cleaning carpet	13.50	
	Cleaning rooms	5.50	
	Directory	2.50	
	Electric bell	6.00	
	Framing picture	5.03	
	Furniture and repairs	12.09	
	Gas	299.22	
	Gas and steam fittings	55.10	
	Ice	7.90	
	Librarian and assistants	2,395.29	
	Amounts carried forward	$4,631.95	$6,494.15

	Amounts brought forward	$4,631.95	$6,494.15
For	Painting	87.10	
	Paper	14.64	
	Printing	459.25	
	Periodicals and papers	185.69	
	Rent	1,000.00	
	Stationery	24.11	
	Supplies	43.74	
	Stamp	2.50	
	Substitute	18.00	
	Table	16.00	
	Water	9.17	
	Watering street (proportion) . . .	2.00	
As per item No. 4 of expenses			$6,494.15

Cemeteries.

Estimated revenue	$12,000.00
Add amount transferred to	136.07
Additional appropriation	2,176.78
	$14,312.85

RECEIVED.

For	Care of lots, etc.	$4,985.22	
	Burial fees	2,095.50	
	Sale of lots	5,453.05	
As per item No. 5 of receipts		$12,533.77	

EXPENDED.

For	Bricks	$22.00	
	Car-tickets	20.00	
	Castings	4.71	
	Cement	16.00	
	Commissions collecting bills . . .	82.75	
	Directory	2.50	
	Drain-pipe	38.50	
	Expressage	6.25	
	Amounts carried forward	$192.71	$14,312.85

	Amounts brought forward	$192.71	$14,312.85
For	Fuel	51.30	
	Grass-seed	10.25	
	Grave-covers	36.70	
	Galvanized pipe	237.60	
	Hardware, tools, and repairs . . .	120.27	
	Hogshead	1.00	
	Labor, as per pay-rolls	10,406.77	
	Lawn-mower repairs	10.04	
	Lumber	65.05	
	Mounting maps	13.57	
	Manure	323.92	
	Marble tablets	170.00	
	Number-stones	44.40	
	Oil	1.50	
	Plumbing	2.00	
	Printing	3.50	
	Postal cards	7.00	
	Plants	191.00	
	Rent of telephone and messages . .	49.05	
	Salary of superintendent, J. K. Farwell	1,299.96	
	Salary of clerk, W. W. Pike . . .	75.00	
	Stamps	18.00	
	Stationery	10.21	
	Stone	131.24	
	Sods and loam	628.39	
	Supplies	1.55	
	Teaming and labor	100.12	
	Water	110.75	
	As per item No. 5 of expenses		$14,312.85

Cemetery Fund.

Amount of fund, Nov. 30, 1883	$5,250.00

RECEIVED.

For perpetual care of lots in Cambridge Cemetery, as per item No. 6 of receipts	1,000.00
Amount of fund, Nov. 30, 1884	$6,250.00

City Lands.

RECEIVED.

For cash payments on estates sold, as per item No. 7 of receipts	$2,761.76

Engineering.

Amount appropriated	$7,500.00
Deduct amount transferred from	452.23
	$7,047.77

RECEIVED.

For plan of Lowell Street, as per item No. 8 of receipts	$20.00	

EXPENDED.

For Assistants, services of	$3,611.48	
Carpenter-work	29.60	
Car-tickets	100.46	
Carriage-hire	20.00	
Directories	7.50	
Expressage	1.85	
Hardware and tools	101.80	
Hand-stamp repairs	6.50	
Leather bags	4.00	
Machine in printing-room	83.19	
Materials and supplies	167.19	
Office furniture	13.40	
Plate glass	12.85	
Printing-room in attic	124.14	
Printing diagrams	40.00	
Repairs of instruments	11.55	
Rubber boots	3.75	
Salary of W. S. Barbour, engineer	2,666.66	
Stationery	36.55	
Stakes	1.80	
Use of horse	3.50	
As per item No. 6 of expenses		$7,047.77

Fire Department.

Amount appropriated	$59,800.00
Estimated revenue	200.00
	$60,000.00
Deduct amount transferred from	1,861.35
	$58,138.65

RECEIVED.

For Rent of tenements	$199.92	
Manure	103.50	
Horses	155.00	
Hose	2.28	
Old material	245.48	
As per item No. 9 of receipts	$706.18	

EXPENDED.

For Alarms (batteries, poles, repairs, ringing bells, etc.)	$1,081.03	
Apparatus, repairs of	1,372.01	
Badges, buttons, etc.	28.86	
Bedding and furniture	414.20	
Carriage-hire	17.00	
Cleaning clock	5.00	
Enginemen, services of	33,705.71	
Enginemen (substitutes in vacations and sickness)	663.00	
Expressage	17.85	
Earth-closets	45.55	
Fuel	998.45	
Fuel for engines	243.75	
Gas	836.08	
Hardware and tools	153.15	
Hay and grain	2,521.26	
Hats	27.50	
Harnesses and repairs	330.51	
Heating apparatus	41.09	
Amounts carried forward	$42,502.00	$58,138.65

	Amounts brought forward	$42,502.00	$58,138.65
For	Houses, repairs of	2,778.04	
	Horses	1,600.00	
	Horse-hire	1,038.49	
	Horse-shoeing	490.31	
	Hose and repairs	1,032.96	
	Hydrants, care of	157.75	
	Ice	34.52	
	Labor, extra, on swamp fire . . .	4.75	
	Labor on reservoir	21.50	
	Oil	7.50	
	Printing	16.25	
	Rent of shed (15 months)	110.50	
	Refreshments	30.00	
	Salary of T. J. Casey, chief engineer	1,200.00	
	" three assistants	975.00	
	" clerk	25.00	
	Supplies	289.44	
	Supplies for chemical engine . . .	66.04	
	Veterinary surgeon	198.45	
	Washing clothing	281.65	
	Washing battery floor	24.00	
	Water for reservoirs	117.00	
	" hydrants	5,000.00	
	" houses	137.50	
	As per item No. 7 of expenses		$58,138.65

Health Department.

Amount appropriated	$1,600.00
Additional appropriation	700.00
	$2,300.00
Deduct amount transferred from	13.24
	$2,286.76

EXPENDED.

For	Burying animals	$27.00	
	Car-tickets	60.00	
	Directory	2.50	
	Amounts carried forward	$89.50	$2,286.76

Amounts brought forward	$89.50	$2,286.76
For Disinfectants	33.40	
Expressage	.15	
Expenses of Dr. Holt at health conference	40.00	
Legal services of George F. Piper	80.00	
Map-frames	1.93	
Printing	31.25	
Removing soil	4.00	
Repairs of hand-stamps	9.75	
Salary of Dr. Holt, health officer	1,000.00	
" clerk of Board	150.00	
" health officer's clerk	349.99	
" inspectors	387.49	
Stationery	92.05	
Serving notices	3.25	
Use of house for hospital	14.00	
As per item No. 8 of expenses		$2,286.76

Incidental Expenses.

Amount appropriated	$10,000.00
Estimated revenue	35,000.00
	$45,000.00
Deduct amount transferred from	3,636.07
	$41,363.93
Add amount transferred to	3,200.00
Additional appropriation	7,415.83
	$51,979.76

RECEIVED.

For Armory rent from State	$600.00	
Collector's fees	789.20	
City clerk's fees	1,693.10	
Sealer's fees	286.84	
Weigher's fees (one half)	56.66	
Milk inspector's fees	97.50	
Gas used in rented rooms	26.32	
Amounts carried forward	$3,549.62	$51,979.76

Amounts brought forward	$3,549.62	$51,979.76
For Grease licenses	53.00	
Pedlers' licenses	50.00	
Liquor licenses	35,200.00	
Rent of public buildings	950.00	
Rent of land	5.00	
Sale of loam	51.60	
Correction of error with city of Chelsea	4.85	
As per item No. 10 of receipts	$39,864.07	

EXPENDED.

For Advertising	$205.30	
Assessors, assistant	1,335.62	
" clerical aid to	996.88	
" carriage-hire	22.00	
Auditor, clerical aid	9.37	
Ashes, removal of	8.00	
Barge, use of	6.00	
Bells, ringing	140.50	
Belmont, proportion of State and County tax	2,461.76	
Binding documents	78.38	
Births and deaths, record of . . .	536.00	
Blank-books, seals, etc., for sealer .	132.34	
Boring-apparatus and boring for new bridge	684.95	
Carriage-hire	250.00	
Car-tickets	885.00	
Care of clocks	209.50	
" ward-rooms	50.00	
" fires	40.00	
" city scales	56.25	
Case for voting-lists	35.00	
Carpenter-work, platform at Temple Hall	4.00	
City of Haverhill, correction of error	4.85	
Amounts carried forward	$8,151.70	$51,979.76

	Amounts brought forward		$8,151.70	$51,979.76
For	City clerk, clerical aid		150.00	
	Clerk of committees, clerical aid . .		187.50	
	Clerk of Commissioners of Sinking Funds		25.00	
	Clerk of courts, making records . .		47.60	
	Clearing up Ward 1 cemetery . .		55.00	
	Commissions on sales of land . . .		88.97	
	Court expenses		151.05	
	Counterfeit reporter		3.00	
	Damages awarded to —			
	Peter Gerrish . . .	$50.00		
	Lizzie Abbott . . .	900.00		
	John Connors . . .	325.00		
	Sarah A. McClosky .	150.00		
	Michael M. Cairns . .	200.00		
	Rena R. Farland . .	425.00		
			2,050.00	
	Damages for water-pipes		15.00	
	Directories		37.00	
	Decoration Day		850.00	
	Deeds, abstracting and recording .		271.07	
	Dusters		22.50	
	Executions against the city, viz.: —			
	Joseph A. McDevitt .	$100.25		
	W. H. Hunter . . .	250.25		
	Bridget Sharkey . .	200.25		
	Hannah Megan . . .	342.91		
	Anne Littlefield . . .	375.00		
	H. E. Hanson . . .	850.82		
			2,119.48	
	Expressage		61.85	
	Fees to J. H. Farrell (milk inspector)		22.50	
	Flag-staff and repairs		286.35	
	Flowers at inauguration		10.00	
	Gas in ward-rooms		61.30	
	Gravelling sidewalks (surrendered estates)		56.75	
	Amounts carried forward		$14,723.62	$51,979.76

	Amounts brought forward	$14,723.62	$51,979.76
For	Grading yards (surrendered estates)	18.00	
	Hardware	10.45	
	Hand-stamp	6.00	
	High-School exhibition	50.00	
	Horse and wagon for sealer . . .	44.25	
	Invalid tax-title	67.02	
	Indexing records	200.00	
	Liquor licenses (one fourth to State) —		
	For 1883 . . . . $7,906.25	16,681.25	
	" 1884 . . . . 8,775.00		
	Legal expenses, witness fees . . .	148.00	
	Lumber	2.99	
	Massachusetts Reports and Digest .	204.75	
	Mason and paving at public buildings	153.38	
	Milk inspector's outfits	7.50	
	Newspapers	21.87	
	Page of Common Council	50.00	
	Painting letters on Revolutionary Monument	8.00	
	Plans of land	84.60	
	Post-office boxes	8.00	
	Polling-places, repairs at	588.18	
	Posting notices	30.00	
	Posting voting-lists	53.10	
	Preparing lists of voters	17.25	
	Precinct maps	125.00	
	Printing	427.09	
	Registration of voters	1,600.00	
	Registration books	22.25	
	Rent of Union Hall for caucuses .	105.00	
	Refreshments for committees . . .	97.60	
	Repairs at ward-rooms	285.37	
	" rifle-range	55.00	
	" Mill-pond gate	16.81	
	Safety deposit vaults	70.00	
	Serving notices	179.00	
	Settlement for damages widening street	5.20	
	Amounts carried forward	$36,166.53	$51,979.76

	Amounts brought forward	$36,166.53	$51,979.76
For	Shovelling snow	27.00	
	Somerville tax	667.32	
	Stationery, voting-lists, etc. . . .	18.52	
	Superintendent of Ward 1 cemetery	12.00	
	Sun-top for wagon	3.75	
	Subscription to Banker and Tradesman	5.00	
	Tax notices, distributing	139.21	
	Taxes, poll, collecting	506.00	
	Telephone despatches	.95	
	Treasurer's clerical aid	2,627.37	
	United States Gazetteer	5.00	
	Water for fountains and hose . .	525.00	
	Water for ward-rooms	7.50	
	Ward officers	445.00	
	Wardens (deputies)	6.00	
	Weighing coal	107.76	
	Weighers' books	19.75	
	Widening North Avenue at Alewife Brook	459.41	
	City Hall: —		
	Awnings	$40.25	
	Cleaning	598.00	
	Decorations	37.83	
	Flags	2.00	
	Fuel	662.40	
	Furniture and repairs . .	165.80	
	Gas	343.23	
	Hardware	2.47	
	Hand-stamp	20.50	
	Ice	56.30	
	Janitor	1,200.00	
	Keys	.55	
	Repairs: —		
	Carpenters'	167.42	
	Mason-work	25.75	
	Painting and glazing . .	144.18	
	Plumbing	221.93	
	Amounts carried forward	$3,688.61	$41,749.07 $51,979.76

Amounts brought forward		$3,688.61	$41,749.07	$51,979.76
Repairs: —			
Plastering	47.27		
Paving coal-bin	15.00		
Piping (steam)	9.84		
Gas fixtures	12.57		
Lightning-rods	16.00		
Seal	3.00		
Supplies	46.62		
Water	70.42		
		3,909.33	
Central Square Building: —			
Fuel	$327.00		
Gas	258.84		
Glass globe	4.00		
Hardware	7.62		
Janitor	1,140.00		
Repairs	427.18		
Supplies	8.84		
Water	192.15		
		2,365.63	
Ward 1 Building: —			
Fuel	$659.80		
Furniture repairs	52.64		
Gas	636.94		
Gravel and grading	30.20		
Janitor	1,140.00		
Repairs	1,226.63		
Supplies	10.47		
Water	199.05		
		3,955.73	
As per item No. 9 of expenses			$51,979.76

Interest.

Amount appropriated	$152,500.00
Estimated revenue	2,500.00
	$155,000.00
Add amount transferred to	1,402.37
Amount carried forward	$156,402.37

Amount brought forward	$156,402.37

RECEIVED.

On taxes, assessments, etc., as per item No. 11 of receipts	$3,890.05	

EXPENDED.

For Interest on Dowse Institute Fund	$900.00	
Registered bond of Sinking Fund	3,000.00	
Daniel White Charity Fund .	300.00	
Funded loan	127,740.00	
Cambridge Public Library note	60.00	
Sanders Temperance Fund . .	600.00	
Over-draft on First National Bank	7.00	
Temporary loan	15,795.37	
Note to Commissioners of Sinking Fund of Water Works .	8,000.00	
As per item No. 10 of expenses		$156,402.37

Interest on Water Loan.

Amount transferred from Water Works, rates, fines, etc.	$86,000.00
Deduct amount transferred from	1,549.00
	$84,451.00

EXPENDED.

As per item No. 11 of expenses	$84,451.00

Lighting Streets.

Amount appropriated	$32,000.00
Deduct amount transferred from	236.80
	$31,763.20

RECEIVED.

For damages to lamps, as per item No. 12 of receipts	$63.42	
Amount carried forward		$31,763.20

Amount brought forward	$31,763.20

EXPENDED.

For Alcohol	$149.30	
Carriage-hire	21.00	
Car-tickets	10.00	
Directory	2.50	
Expressage	2.75	
Gas	22,026.07	
Globe Gas Light Company (care of ten lamps) . . .	145.00	
Lamps, repairs of	996.35	
Lamps, care of	7,248.87	
Lamp-posts	180.60	
Ladders and repairs	42.00	
Oil and matches	221.38	
Oil-cans	1.30	
Printing	6.75	
Plumbing	17.76	
Salary of Superintendent . .	526.00	
Supplies	10.97	
Tags	.60	
Torches	149.00	
Use of horse	5.00	
As per item No. 12 of expenses		$31,763.20

Loan (Temporary).

RECEIVED.

For city notes issued during the year, as per item No. 13 of receipts	$540,000.00

EXPENDED.

For city notes due and paid October 11, 13, 14, and 15, as per item No. 13 of expenses . . .	$540,000.00

Loan Payable from Taxes of 1884.

For city notes due and paid October 10 and 11, as per item No. 18 of expenses	$155,000.00

Loan Payable from Taxes of 1885.

RECEIVED.

For city notes issued during the year, as per item No. 14 of receipts	$171,000.00

Loan (Bridge).

RECEIVED.

From Commissioners of the Sinking Funds, included in item No. 25 of receipts	$94,000.00

EXPENDED.

For matured Bridge Loan bonds, as per item No. 14 of expenses	$94,000.00

Loan (Building).

RECEIVED.

From Commissioners of the Sinking Funds, included in item No. 25 of receipts	$198,000.00

EXPENDED.

For matured Building Loan bonds, as per item No. 15 of expenses	$198,000.00

Loan (Funding).

RECEIVED.

From Commissioners of the Sinking Funds, included in item No. 25 of receipts	$100,000.00

EXPENDED.

For matured Funding Loan bonds, as per item No. 16 of expenses	$100,000.00

Loan (Low Land).

RECEIVED.

From Commissioners of the Sinking Funds, included in item No. 25 of receipts	$296,000.00

EXPENDED.

For matured Low Land Loan bonds, as per item No. 17 of expenses	$296,000,00

Loan (Water).

From sale of thirty-six Water Loan bonds, as per item No. 15 of receipts	$36,000.00

Pauper Department.

Amount appropriated	$10,000.00	
Estimated revenue	4,000.00	
	$14,000.00	
Add amount transferred to	1,365.57	
Additional appropriation	3,741.20	
	$19,106.77	

RECEIVED.

For aid to and burial of paupers, as per item No. 16 of receipts	$4,824.87	

EXPENDED.

For Boots and shoes	$235.40	
Board	10,270.68	
Car-tickets and fares	281.03	
Directories	32.00	
Correction of error in bill	5.25	
Expressage	1.65	
Fuel	952.19	
Furniture, repairs of, and moving .	53.55	
Flour	175.00	
Groceries	706.24	
Hay and grain	9.60	
Horse	200.00	
Ice	6.00	
Amounts carried forward	$12,928.59	$19,106.77

Amounts brought forward	$12,928.59	$19,106.77
For Medicines and attendance	188.36	
Nurse-hire	249.33	
Preparing wood	6.30	
Postage	42.08	
Provisions	65.78	
Printing	53.00	
Paupers, aid to	1,873.93	
Paupers, burial of	209.00	
Rent of tenements	563.96	
Rent of telephone	32.00	
Secretary, D. P. Muzzey	1,200.00	
Stationery and printing	182.52	
Supplies	8.19	
Telegram	.60	
Visitor, V. Danforth	1,500.00	
Vaccine virus	2.88	
Washing	.25	
As per item No. 19 of expenses		$19,106.77

Pauper Department (Almshouse).

Amount appropriated	$14,500.00
Estimated revenue	4,000.00
	$18,500.00
Deduct amounts transferred from	1,365.57
	$17,134.43
Additional appropriation	2,312.62
	$19,447.05

RECEIVED.

For Stone	$4,238.77	
Board of paupers	1,414.93	
Farm products	316.76	
Meals	45.00	
State aid	21.00	
As per item No. 17 of receipts	$6,036.46	
Amount carried forward		$19,447.05

Amount brought forward		$19,447.05

EXPENDED.

For Blankets and bed-clothing	$71.70	
Butter	471.39	
Beef	1,490.96	
Boots and shoes	220.75	
Burials	42.00	
Chaplain	100.00	
Carriage repairs	183.38	
Carriage-robe	14.00	
Cheese	7.98	
Cement and lime	7.50	
Car-tickets	10.95	
Clothing	473.51	
Clothes-line (wire)	20.00	
Commission on sale of cow . . .	2.00	
Cows	161.00	
Directory	2.50	
Dry-goods	610.04	
Flour	1,078.50	
Fish	491.95	
Fuel	1,881.74	
Fruits	33.07	
Furniture and repairs	141.52	
Flowers	10.00	
Flower-pots	8.46	
Gas	210.33	
Groceries	1,669.33	
Hardware, tools, etc.	360.29	
Hay and grain	554.77	
Hose	5.70	
Ice	130.78	
Ice-cream	6.25	
Lumber	48.78	
Labor on ledge and farm	1,605.33	
Labor, pay-roll of house officials . .	2,187.84	
Manure	103.50	
Meal	36.86	
Amounts carried forward	$14,454.66	$19,447.05

	Amounts brought forward	$14,454.66	$19,447.05
For	Medicines	164.84	
	Milk	1.32	
	Newspapers	13.50	
	Organist	100.00	
	Oil	24.83	
	Provisions	1,424.54	
	Potatoes	201.90	
	Printing	36.37	
	Presents	6.00	
	Postage	5.00	
	Powder	171.20	
	Pigs	20.00	
	Repairs, heating apparatus	432.48	
	" plumbing	196.94	
	" painting	33.75	
	" sewing-machine	4.95	
	Rent of telephone	31.46	
	Sealing weights and measures	1.89	
	Shoe-findings	41.92	
	Stationery	10.16	
	Supplies	230.05	
	Seeds	26.36	
	Tan	3.00	
	Turkeys	53.44	
	Truss	6.00	
	Washing	140.75	
	Warden's salary	1,000.00	
	Water	464.60	
	Whitewashing	68.25	
	Wooden-ware	44.63	
	Yarns	32.26	
	As per item No. 20 of expenses		$19,447.05

Pauper Department (House Offal).

Amount appropriated	$3,500.00
Estimated revenue	6,500.00
	$10,000.00
Additional appropriation	666.81
Amount carried forward	$10,666.81

Amount brought forward	$10,666.81

RECEIVED.

For offal, as per item No. 18 of receipts .	$6,449.96	

EXPENDED.

For Blankets	$19.00	
Harness repairs	42.45	
Horse-hire	25.00	
Horse-shoeing	257.18	
Hay and grain	1,162.88	
Disinfectants	31.52	
Labor, as per pay-rolls	8,947.35	
Veterinary surgeon	50.00	
Wagon repairs	131.43	
As per item No. 21 of expenses		$10,666.81

Police Department.

Amount appropriated	$69,000.00
Estimated revenue	4,000.00
	$73,000.00
Additional appropriation	1,218.59
	$74,218.59

RECEIVED.

For Court fees	$5,229.16	
Bill duplicated	.60	
Use of stakes, ropes, etc.	7.20	
Use of horse and van	6.00	
As per item No. 19 of receipts	$5,242.96	

EXPENDED.

For Animals, burying	$1.00	
Billies	36.00	
Buggy	125.00	
Buttons, wreath-straps, etc. . . .	223.20	
Amounts carried forward	$385.20	$74,218.59

	Amounts brought forward	$385.20	$74,218.59
For	Carriage-hire	9.00	
	Cleaning stations	106.42	
	Clocks, repairs of	5.50	
	Drain repairs	33.40	
	Directories	17.50	
	Disinfectants	12.00	
	Draping stations	50.50	
	Expressage	1.50	
	Fares, etc.	16.66	
	Food for prisoners	60.22	
	Fuel	51.06	
	Furniture, and repairs	74.45	
	Gas-fittings	15.07	
	Gas	721.52	
	Hay and grain	107.83	
	Horse-shoeing	41.73	
	Horse-hire	8.50	
	Horse board	264.17	
	Harness and repairs	11.15	
	Ice	31.60	
	Medical attendance	40.00	
	Medicines	4.13	
	Opening desk	1.25	
	Policemen, salaries of	69,740.29	
	Printing	197.57	
	Photographs	11.25	
	Painting and repairing signs . . .	10.50	
	Repairs at stations	180.48	
	Repairs of telephone	5.75	
	Rent of telephone	100.00	
	Refreshments	8.35	
	Removing ashes	1.00	
	Salary of Chief Hagar	159.14	
	" " Copeland	1,307.52	
	" " Cloyes	213.34	
	Supplies	64.48	
	Stone	50.79	
	Amounts carried forward	$74,120.82	$74,218.59

Amounts brought forward	$74,120.82	$74,218.59
For Stationery	6.25	
Stove	30.65	
Transportation of prisoners	3.00	
Telegrams	6.83	
Washing	11.37	
Water	34.17	
Wagon repairs	5.50	
As per item No. 22 of expenses		$74,218.59

Salaries.

Amount appropriated	$22,400.00
Additional appropriation	229.15
	$22,629.15

EXPENDED.

Paid James A. Fox, mayor	$1,800.00	
Justin A. Jacobs, city clerk	3,000.00	
Walter W. Pike, assistant city clerk	1,200.00	
W. W. Dallinger, city treasurer	3,000.00	
W. W. Dallinger, treasurer of Sinking Funds	300.00	
F. Perrin, auditor	1,800.00	
John McDuffie, clerk of committees	2,000.00	
W. W. Pike, clerk of Common Council	200.00	
F. L. Pratt, city messenger	1,500.00	
A. Z. Brown, assessor	1,300.00	
A. J. Green, assessor	1,300.00	
J. G. Gooch, assessor	1,300.00	
John W. Hammond, city solicitor	2,000.00	
B. F. Nourse, sealer of weights and measures	350.00	
John H. Farrell, milk inspector	404.15	
John H. Farrell, vinegar inspector	175.00	
L. L. Bryant, assistant city physician	1,000.00	
As per item No. 23 of expenses		$22,629.15

School Department (Drawing Schools).

Amount appropriated	$950.00
Deduct amount transferred from	.30
	$949.70

EXPENDED.

For Janitor	$25.00	
Shades	2.00	
Printing	9.70	
Teachers' salaries	913.00	
As per item No. 24 of expenses		$949.70

School Department (Evening Schools).

Amount appropriated	$1,350.00
Deduct amount transferred from	96.78
	$1,253.22

EXPENDED.

For Books	$21.45	
Janitor	60.00	
Printing	21.07	
Teachers' salaries	1,150.70	
As per item No. 25 of expenses		$1,253.22

School Department (Incidental Expenses).

Amount appropriated	$2,100.00
Deduct amount transferred from	632.82
	$1,467.18

EXPENDED.

For Advertising	$12.25	
Books	9.59	
Botanical supplies	3.64	
Chemical apparatus	10.48	
Drawing-manuals	2.40	
Amounts carried forward	$38.36	$1,467.18

Amounts brought forward	$38.36	$1,467.18
For Diplomas	142.00	
Easel	1.25	
Expressage	44.60	
Music, sheet	5.00	
Models	65.00	
Librarian	30.00	
Page of School Committee	25.00	
Printing	502.89	
Purchasing agent	115.38	
Ribbons	12.60	
Secretary	300.00	
Statistics	6.00	
Travelling expenses	72.60	
Tuition of Jennie Sutherland, Belmont	9.00	
Tuning pianos	2.50	
Tickets	95.00	
As per item No. 26 of expenses		$1,467.18

School Department (Salaries).

Amount appropriated	$149,000.00
Estimated revenue	1,000.00
	$150,000.00
Additional appropriation	2,766.00
	$152,766.00

RECEIVED.

Hopkins' Fund income	$782.62	
Tuition of non-resident pupils	214.50	
As per item No. 20 of receipts		$997.12

EXPENDED.

For Superintendent of schools, salary	$2,700.00	
Teachers, salaries of	146,737.00	
Teachers of training school	629.00	
Truant-officers	2,700.00	
As per item No. 27 of expenses		$152,766.00

School Department (Text-Books and Stationery).

Amount appropriated	$3,000.00
Additional appropriation	12,000.00
	$15,000.00
Deduct amount transferred from	238.10
	$14,761.90

EXPENDED.

For Text-books	$10,504.75	
Stationery	4,257.15	
As per item No. 28 of expenses		$14,761.90

School-Houses (Care and Repairs).

Amount appropriated	$30,000.00
Add amount transferred to	457.61
	$30,457.61
Additional appropriation	4,468.87
	$34,926.48

RECEIVED.

Correction of error from duplicate bill, as per item No. 21 of receipts	$3.06

EXPENDED.

For Black-boards	$323.33	
Brushes and brooms	123.57	
Clocks and repairs	81.75	
Dusters	221.56	
Disinfectants	5.00	
Fuel	7,290.46	
Fire-alarm circuit repairs	4.65	
Furniture and repairs	890.02	
Gong-bells	9.00	
Gas	110.73	
Gravelling yards and grading	131.50	
Amounts carried forward	$9,191.57	$34,926.48

	Amounts brought forward	$9,191.57	$34,926.48
For	Hardware and tools	473.39	
	Ink-wells and fillers	128.88	
	Janitors	9,670.44	
	Lamp-burners	5.50	
	Lumber	541.86	
	Manure for lawns	2.50	
	Mats	304.59	
	Oil	1.00	
	Printing	4.00	
	Platforms	34.00	
	Paving	13.00	
		$20,370.73	
	Repairs: —		
	Carpenter-work . . $3,140.75		
	Roofs and gutters . . 708.26		
	Heating apparatus . . 3,602.75		
	Cesspool 2.00		
	Painting and glazing . 2,571.92		
	Mason-work 658.24		
	Plumbing and piping . 469.77		
	Locks, keys, and bells 66.35		
	Whitewashing, plastering, etc. 732.47		
	Lightning-rods . . . 110.75		
	Papering 11.53		
	Fences 29.40		
	General 1,263.73		
		13,367.92	
	Stove repairs	.75	
	Supplies	71.53	
	Speaking-tubes and bells	118.80	
	Sawing wood	21.00	
	Telephone and repairs	25.00	
	Teaming	70.60	
	Ventilators	21.00	
	Water	859.15	
As per item No. 29 of expenses			$34,926.48

School-Houses (New, and Furniture).

Appropriations	$17,000.00
Deduct amount transferred from	457.61
	$16,542.39
Additional appropriation	761.95
	$17,304.34

EXPENDED.

For Architect	$500.00	
Contract, J. H. Coon & Co.	15,450.07	
Carpenter-work	324.57	
Chairs	66.00	
Clocks	36.00	
Desks	787.00	
Gongs	42.00	
Gas-piping	8.36	
Ink-wells	6.00	
Mats	39.26	
Printing	45.08	
As per item No. 30 of expenses		$17,304.34

Sewers (Construction).

Amount appropriated	$10,000.00
Estimated revenue	10,000.00
	$20,000.00
Less amounts transferred from	3,355.23
	$16,644.77

RECEIVED.

For assessments, as per item No. 22 of receipts	$10,045.56	

EXPENDED.

For Bricks	$1,096.52	
Catch-basins	1,281.14	
Carpenter-work	147.32	
Castings	354.83	
Amounts carried forward	$2,879.81	$16,644.77

Amounts brought forward	$2,879.81	$16,644.77
For Cement	228.00	
Drain-pipe	4,772.87	
Fuel	34.12	
Granite	4.50	
Inspector	42.50	
Labor, as per pay-rolls	6,720.67	
Lumber	8.99	
Overseer	698.00	
Oil	3.00	
Pump, use of	233.00	
Packing	12.35	
Sand and gravel	50.50	
Stationery	6.75	
Teaming	923.44	
Water	26.27	
As per item No. 31 of expenses		$16,644.77

Sewers (Maintenance).

Amount appropriated	$10,200.00
Estimated revenue	1,800.00
	$12,000.00
Add amounts transferred to	2,434.72
Additional appropriation	2,785.44
	$17,220.16

RECEIVED.

For Stone	$2.00	
Use of engine	78.75	
Work at Goffe's Cove	34.34	
Repairs at Mill Pond	37.50	
New cover for catch-basin, and repairs	108.19	
Manure	4.00	
Repairing sewers	3.41	
Somerville's proportion cleaning Bridge Street sewer	1,714.70	
As per item No. 23 of receipts	$1,982.89	
Amount carried forward		$17,220.16

Amount brought forward		$17,220.16

EXPENDED.

For Bricks	$769.97	
Boots and repairs	60.98	
Basin-covers	185.52	
Carriage-hire	16.00	
Car-tickets	23.55	
Carpenter-work	78.40	
Castings	255.23	
Cleaning catch-basin	413.87	
Cement	461.50	
Drain-pipe	622.33	
Diaphragms	9.50	
Dredging Bridge Street sewer . .	2,681.60	
Expressage	5.25	
Fuel	58.67	
Freight on basin-covers	20.00	
Filing saws	1.75	
Hardware, tools, and repairs . . .	344.24	
Horse-hire	56.00	
Horse-shoeing	56.75	
Harness repairs	92.59	
Hay and grain	180.22	
Heliotyping section of sewer . . .	1.40	
Horse-clipping	3.00	
Horse	250.00	
Horse medicine	1.00	
Hose	55.85	
Hose-gate	40.00	
Iron-work	27.54	
Keys	1.50	
Labor, as per pay-rolls	7,295.66	
Lumber	577.09	
Overseer	761.40	
Piles and driving	47.61	
Painting shed	33.75	
Printing	8.90	
Amounts carried forward	$15,498.62	$17,220.16

	Amounts brought forward	$15,498.62	$17,220.16
For	Repairing leak	6.25	
	Roofing shed	29.40	
	Sewer inlets	4.00	
	Supplies	27.02	
	Stones	127.50	
	Stationery	16.50	
	Sheave	1.40	
	Teaming	1,080.34	
	Turning	1.50	
	Use of pump	48.00	
	Use of steam-hammer	36.75	
	Veterinary surgeon	30.00	
	Water	224.21	
	Wagon repairs	56.75	
	Water-piping	13.92	
	Whitewashing	18.00	
	As per item No. 32 of expenses		$17,220.16

Shade-Trees and Public Grounds.

	Appropriation	$4,000.00
	Additional appropriation	119.18
		$4,119.18

RECEIVED.

For	trees, as per item No. 24 of receipts	$34.75	

EXPENDED.

For	Blocks	$13.10	
	Castings	6.50	
	Cart	80.00	
	Gun-carriages	100.00	
	Grass-seed	21.75	
	Hand-stamp	7.00	
	Horse	250.00	
	Hardware	12.59	
	Lawn-mowers	44.14	
	Labor, as per pay-rolls	2,948.00	
	Amounts carried forward	$3,483.08	$4,119.18

Amounts brought forward	$3,483.08	$4,119.18
For Manure	321.25	
Manilla	8.50	
Pump repaired	13.10	
Rakes	2.50	
Team, rolling grass	16.25	
Tulips and plants	64.25	
Trees	154.50	
Wagon repairs	55.75	
As per item No. 33 of expenses		$4,119.18

Sinking Funds (Commissioners of).

Amount of funds, Nov. 30, 1883 . . . . . $1,120,317.19

RECEIVED.

From City Treasurer, amount appropriated by City Council	$80,225.00	
From interest accumulations to Nov. 30, 1884	47,989.33	
From premiums on securities sold . .	31,376.56	
		159,590.89
		$1,279,908.08

EXPENDED.

For Interest	$1,679.04	
Premiums	32.50	
Building Loan	198,000.00	
Low Land Loan	296,000.00	
Bridge Loan	94,000.00	
Funding Loan	100,000.00	
		689,711.54
Amount of funds, Nov. 30, 1884		$590,196.54

Sinking Fund of Water Works (Trustees of).

Amount of fund, Nov. 30, 1883		$496,896.95
RECEIVED.		
Amount of revenue transferred from Water Works, rates, fines, etc. . .	$42,705.00	
Note from city of Cambridge, being excess of revenue over expenditures in Water Works account from 1865 to 1882, inclusive	200,000.00	
Amount received from city of Cambridge, being excess of revenue for the years 1883 and 1884	9,271.54	
Interest accumulations for the year .	32,750.83	
Premiums	5,537.24	
		290,264.61
Amount of the fund, Nov. 30, 1884		$787,161.56

State Aid.

Estimated revenue		$13,000.00
Additional appropriation		450.50
		$13,450.50
RECEIVED.		
For allowance from Commonwealth for 1883	$12,958.00	
For allowance from Commonwealth for 1884	11,958.50	
Amount reimbursed from other cities and towns	148.00	
As per item No. 26 of receipts	$25,064.50	
EXPENDED.		
For Military aid	$10,663.00	
Indigent aid	2,497.00	
Clerical assistance	242.50	
Aid to Hugh Crosby	48.00	
As per item No. 36 of expenses		$13,450.50

Stationery and Printing.

Appropriation	$3,000.00
Additional appropriation	276.07
	$3,276.07

EXPENDED.

For Stationery	$1,106.63	
Printing	2,169.44	
As per item No. 37 of expenses		$3,276.07

Street Department (Paving).

Appropriation	$18,000.00
Estimated revenue	500.00
	$18,500.00
Additional appropriation	1,614.76
	$20,114.76
Deduct amount transferred from	1,938.33
	$18,176.43

RECEIVED.

For Bricks	$1,006.50	
Edgestones	373.06	
Paving	174.80	
Making drive-ways	27.00	
Sidewalks	8.20	
Blocks	25.20	
As per item No. 27 of receipts	$1,614.76	

EXPENDED.

For Advertising	$40.66	
Bricks	2,532.66	
Cart-wheels	21.00	
Crane chain	3.65	
Cement	6.00	
Edgestones and paving	1,201.23	
Amounts carried forward	$3,805.20	$18,176.43

Amounts brought forward	$3,805.20	$18,176.43
For Freight on paving-stones	527.56	
Flagging-stones	1,045.76	
Gravel	1,307.60	
Granite blocks	3,000.00	
Hardware	40.88	
Labor, as per pay-rolls	8,398.04	
Lumber	5.51	
Oil	6.42	
Rammers	8.00	
Weighing	31.46	
As per item No. 38 of expenses		$18,176.43

Street Department (Repairs).

Appropriation	$85,000.00
Estimated revenue	2,000.00
	$87,000.00
Additional appropriation	1,819.31
	$88,819.31

RECEIVED.

For Bricks	$26.10	
Chopping-blocks	24.25	
Filling	476.85	
Gravel	71.30	
Ashes	21.75	
Horse	100.00	
Manure	341.25	
Old iron	89.10	
Old plank and fence	16.40	
As per item No. 28 of receipts	$1,167.00	

EXPENDED.

For Advertising	$33.85	
Buggy	150.00	
Boots, rubber	9.00	
Amounts carried forward	$192.85	$88,819.31

	Amounts brought forward	$192.85	$88,819.31
For	Car-tickets	15.00	
	Castings	166.77	
	Carpenter-work	1.20	
	Clipping horse	3.00	
	Cans repaired	.55	
	Cement	1.50	
	Cart and repairs	261.20	
	Carriage-hire	48.00	
	Directory	2.50	
	Expressage	.50	
	Fuel	390.28	
	Freight	6.59	
	Gravel	441.40	
	Gas	89.83	
	Gravel-screens	21.00	
	Grease	21.94	
	Hardware, tools, and repairs . . .	630.84	
	Horses	2,100.00	
	Horse-hire	4.00	
	Horse medicine	24.81	
	Horse-shoeing	88.40	
	Hay and grain	4,096.14	
	Hand-stamps	17.70	
	Hoof-liquid	1.00	
	Injuries, settlement of	115.00	
	Iron and steel	137.06	
	Labor, pay-rolls, regular $34,343.76	50,419.26	
	" " transient 16,075.50		
	Lumber	642.35	
	Lamp-brackets	2.85	
	Note (Mr. Cassidy, for gravel) . .	2,717.46	
	Oil	29.84	
	Oatmeal	19.50	
	Painting signs	138.75	
	Printing	13.50	
	Plough-handle	2.00	
	Planing gutters	15.50	
	Amounts carried forward	$62,880.07	$88,819.31

Amounts brought forward	$62,880.07	$88,819.31
For Repairing wagons	308.65	
" harnesses	548.09	
" stoves	9.85	
Rent of land	50.00	
Rosin	1.00	
Superintendent, salary of	1,530.91	
Salt	2.50	
Scales	24.75	
Sawing planks and machine labor	16.35	
Stone-crusher	662.15	
Stone	4,145.99	
Supplies	61.44	
Teaming, as per pay-roll	14,489.02	
Teaming gravel, Cassidy's bills	3,696.00	
Telephone, with stable	53.89	
Tape	3.00	
Use of sleigh	11.00	
Use of team	8.00	
Veterinary surgeon	32.75	
Water	176.68	
Wire screen	30.29	
Whips	4.20	
Wharfage	40.00	
Wheels	32.73	
As per item No. 39 of expenses		$88,819.31

Street Department (Watering).

Appropriation	$19,000.00
Estimated receipts	10,000.00
	$29,000.00
Additional appropriation	2,842.08
	$31,842.08

RECEIVED.

For watering streets, as per item No. 29 of receipts	$9,383.75	
Amount carried forward		$31,842.08

Amount brought forward	$31,842.08

EXPENDED.

For Castings	$13.98	
Hardware	73.04	
Hose	66.00	
Iron and steel	161.02	
Labor, as per pay-rolls	16,077.68	
Leather	36.01	
Lettering carts	17.00	
Lumber (oak plank)	33.00	
Paints	15.66	
Printing	1.50	
Packing	10.50	
Plugs	4.50	
Repairing sprinkler	78.24	
Sawing plank	2.40	
Stand-pipes, moving	30.11	
Stand-pipes, repairing	6.73	
Use of carts	200.00	
" wharf	25.00	
" horse	32.00	
Watering-carts, six new ones . . .	2,790.00	
Water for streets	12,167.71	
As per item No. 40 of expenses		$31,842.08

Surrendered Estates (Care and Repairs).

Estimated revenue	$150.00
Deduct amount transferred from	124.00
	$26.00

RECEIVED.

For rents, as per item No. 30 of receipts	$132.00

EXPENDED.

For shovelling snow from sidewalks, as per item No. 41 of expenses	$26.00

Surrendered Estates (Sale Account).

RECEIVED.

From payments on estates, as per item No. 31 of receipts	$8,406.56

EXPENDED.

For commission on sales, as per item No. 42 of expenses	249.51
Net receipts	$8,157.05

Tax (Corporation).

RECEIVED.

From the Commonwealth, for the years 1883 and 1884, as per item No. 32 of receipts	$92,851.79

Tax (National Bank).

RECEIVED.

From the Commonwealth, for the years 1883 and 1884, as per item No. 33 of receipts	$40,644.75

EXPENDED.

Amount paid the Commonwealth, being for two years, 1883 and 1884, as per item No. 43 of expenses	11,378.60
Net receipts	$29,266.15

Tax (County).

Amount paid the County of Middlesex, being for two years, 1883 and 1884, as per item No. 44 of expenses	$60,257.46

Tax (State).

Amount paid the Commonwealth, being for two years, 1883 and 1884, as per item No. 45 of expenses	$104,615.00

Taxes of 1880.

Amount uncollected Nov. 30, 1883	$7,894.88

RECEIVED.

From sundry persons, as per item No. 35 of receipts	107.60
Balance uncollected Nov. 30, 1884	$7,787.28

Taxes of 1881.

Amount uncollected Nov. 30, 1883	$9,501.49

RECEIVED.

From sundry persons, as per item No. 36 of receipts	74.00
Balance uncollected Nov. 30, 1884	$9,427.49

Taxes of 1882.

Amount uncollected Nov. 30, 1883	$10,713.32

RECEIVED.

From sundry persons, as per item No. 37 of receipts	1,816.14
Balance uncollected Nov. 30, 1884	$8,897.18

Taxes of 1883.

Amount uncollected Nov. 30, 1883	$67,482.66
Amount of Assessors' supplemental warrants . . .	32.80
	$67,515.46

RECEIVED.

From sundry persons, as per item No. 38 of receipts	53,747.05
Balance uncollected Nov. 30, 1884	$13,768.41

Taxes of 1884.

Amount of Assessors' original warrant	$936,421.70
Amount of Assessors' supplemental warrant . .	1,516.94
Amount carried forward	$937,938.64

Amount brought forward	$937,938.64

RECEIVED.

From sundry persons, as per item No. 39 of receipts	858,212.12
Balance uncollected Nov. 30, 1884 . . .	$79,726.52

Tax Lien Account.

Paid to Nov. 30, 1883	$17,069.80

EXPENDED.

For tax titles, as per item No. 46 of expenses	$737.57	

RECEIVED.

For release of tax titles, as per item No. 34 of receipts	116.35	
Net expenditure		621.22
Paid to Nov. 30, 1884		$17,691.02

Water Works (Construction).

Appropriation	$15,000.00
Additional appropriation	5,000.00
	$20,000.00
Deduct amount transferred from	1,100.00
	$18,900.00

RECEIVED.

From premium on coupon bonds, as per item No. 40 of receipts	$1,207.20

EXPENDED.

For Advertising	$23.50	
American Bank-Note Co., altering plates	200.00	
Castings	314.53	
Amounts carried forward	$538.03	$18,900.00

	Amounts brought forward	$538.03	$18,900.00
For	Check-valves	1,272.25	
	Freight on water-pipe	729.50	
	Galvanized pipe	271.80	
	Hardware, tools, etc.	24.69	
	Hydrants	408.70	
	Labor, as per pay-rolls	4,769.04	
	Lead	510.73	
	Labor, extra	6.90	
	Meters	553.50	
	Packing	48.36	
	Paving	81.00	
	Repairing sewers	3.41	
	Stony Brook survey	43.21	
	Teaming pipe, etc.	262.52	
	Water-pipes	9,349.34	
	Wharfage	27.02	
	As per item No. 47 of expenses		$18,900.00

Water Works (Maintenance).

Appropriation	$30,000.00
Add amount transferred to	2,096.04
Additional appropriation	5,940.83
	$38,036.87

EXPENDED.

For	Advertising	$1.75	
	Analyses of water	50.00	
	Belting	72.60	
	Blankets and robe	34.00	
	Bricks	30.90	
	Boots, hip and rubber	11.20	
	Carpenter-work	988.75	
	Couplings, cocks, etc.	284.20	
	Castings	151.24	
	Cement	10.68	
	Carpeting	3.25	
	Amounts carried forward	$1,638.57	$38,036.87

	Amounts brought forward	$1,638.57	$38,036.87
For	Carriage-hire	235.00	
	Care of weir	10.00	
	Clipping horse	3.00	
	Cleaning vault	4.00	
	Driving piles	100.04	
	Desk	50.00	
	Directory	7.50	
	Dinners for committee at Waltham	174.00	
	Dory	21.50	
	Engine repairs	26.40	
	Expressage	38.97	
	Expenses to New York, Mr. Nevons	15.00	
	Electric call-bell	35.00	
	Expense repairing drain (one half)	8.75	
	Furniture and repairs	22.50	
	Fuel	3,972.78	
	Fares and car-tickets	137.00	
	Fence	73.40	
	Flowers	12.00	
	Frost-cases	25.50	
	Galvanized wire	4.80	
	Grass-seed	1.00	
	Hand-stamp	6.00	
	Hardware, tools, and repairs	501.36	
	Horse-shoeing	133.89	
	Hydrant-boxes and repairs	62.74	
	Hay and grain	503.38	
	Horse medicine	1.95	
	Harnesses and repairs	92.82	
	Horse-shoeing	14.76	
	Hose	99.53	
	Horse	140.00	
	Iron-work	20.41	
	Labor, as per pay-rolls	9,807.35	
	Lumber and labor at pumping station	194.04	
	Lawn-dressing and seed	13.00	
	Lawn-mower repairs	2.85	
	Amounts carried forward	$18,210.79	$38,036.87

	Amounts brought forward	$18,210.79	$38,036.87
For	Lumber	16.67	
	Meter repairs	62.89	
	Machine labor	66.81	
	Mowing	10.00	
	Mason-work	42.00	
	Machinist	20.81	
	Newspaper	11.00	
	Oil	79.11	
	Oil-can	1.10	
	Pump, use of	156.00	
	Plough	9.00	
	Plumbing	56.41	
	Painting and glazing	210.40	
	Paving	19.69	
	Painting sleigh	10.00	
	Plough repairs	6.00	
	Piping and reflectors	163.80	
	Printing	131.00	
	Polishing-composition	2.00	
	Plugs	3.15	
	Repairing wall	8.00	
	Rent of office	600.00	
	Rent of wharf	50.00	
	Rammers	1.50	
	Salary of Superintendent	2,000.00	
	Salary of Registrars, —		
	Mr. Cotton $1,333.33	1,833.33	
	Mr. Harding . . . 500.00		
	Salary of Assistant Registrar	666.66	
	" Foreman	1,030.00	
	" Clerk of Board	200.00	
	" Office Clerk	115.00	
	" Engineer, Mr. Brooks . . .	1,500.00	
	Stuffing-box	3.00	
	Smoke-pipe for engine at Fresh Pond .	35.90	
	Stove-pipe and stove	46.40	
	Supplies	65.61	
	Amounts carried forward	$27,444.03	$38,036.87

Amounts brought forward	$27,444.03	$38,036.87
For Stationery and stamps	82.19	
Stand-pipes	471.25	
Slating	7.03	
Screenings	44.80	
Surplus of receipts for 1883 and 1884, paid to commissioners of Sinking Fund of Water Works	9,271.54	
Teaming	337.34	
Telegrams	3.82	
Telephone	25.00	
Telephone repairs	7.46	
Tags	.35	
Teaming gravel	44.50	
Telegraph repairs	5.22	
Veterinary surgeon	26.00	
Valves	9.10	
Waste	31.00	
Wagon repairs	208.70	
Water-cock seals	16.68	
Wedges	.86	
As per item No. 48 of expenses		$38,036.87

Water Works (Rates, Fines, etc.).

RECEIVED.

For rates, fines, etc., for ten months, as per item No. 41 of receipts		$162,811.27
Deduct amount transferred to interest on Water Loan	$86.000.00	
Deduct amount transferred to Sinking Fund of Water Works	42,705.00	
Deduct amount transferred to Water Works, maintenance	30,000.00	
Deduct amount transferred to Water Works, maintenance and supply	1,231.00	
		159,936.00
		$2,875.27

Amount brought forward	$2,875.27

EXPENDED.

For water-rates refunded, as per item No. 49 of expenses	769.00
Balance unexpended	$2,106.27

Water Works (Supplies).

RECEIVED.

For supply pipes and fittings (for ten months), as per item No. 42 of receipts.	$4,855.66

EXPENDED.

For Labor, as per pay-rolls	$1,755.37	
Pipe fittings, etc.	3,479.59	
As per item No. 50 of expenses		5,234.96
Excess of expenditure		$379.30

Water Works (Construction, Stony Brook).

Additional water supply, appropriation	$300,000.00

EXPENDED.

For Boarding the engineers	$376.72	
Boat-hire	15.00	
Boring on site of dam	1,081.24	
Car-fares	87.51	
Carriage-hire	216.10	
Consulting engineer.	1,000.00	
Draftsmen and surveyors . . .	6,907.34	
Fuel	6.50	
Hardware and tools	.95	
Lumber	5.10	
Office contract	765.00	
Oars	1.60	
Printing	4.75	
Amounts carried forward . . .	$10,467.81	$300,000.00

	Amounts brought forward . .	$10,467.81	$300,000.00
For	Photographs	30.00	
	Supplies	3.95	
	Stove	31.07	
	Stove-pipe	1.20	
	Stone	154.25	
	Teaming	1,869.46	
	Use of instruments	62.00	
As per item No. 51 of expenses			12,619.74
Amount of appropriation unexpended . .			$287,380.26

Taxes.

The amount of taxes assessed by the Board of Assessors on the real and personal estates and polls of Cambridge, for the year 1884, was as follows: —

Valuation of real estate	$41,289,200
Valuation of personal estate	12,259,491⅔
	$53,548,691⅔

Assessed at $16.80 per $1,000, gives	$899,618.02
15,395 polls, at $2.00	30,790.00
5 polls of women, at 50 cents	2.50
Bank stock (non-residents separately assessed) . .	6,011.18
	$936,421.70

This tax is divided as follows: —

For County assessments	$27,496.80
State assessments	59,780.00
State charge for non-resident bank stock . .	6,011.18
City purposes [1]	835,000.00
Overlay	8,133.72
	$936,421.70

[1] To meet the city expenses, the income from various departments is added to this sum thus raised by taxation.

Increase in the number of polls since last year . .	525

525 polls, at $2.00 each	$1,050.00
Increase in the personal valuation	283,851.00
Increase in the real estate valuation	1,467,500.00
Total gain in the valuation since last year .	$1,752,401.00

Number of houses in 1884	8,781
" " in 1883	8,572
" " built during the past year	209

Statement of the valuations of the personal property and real estate of the city of Cambridge, with the number of polls, dwellings, and rate of taxation, for the past seven years : —

Year.	Polls.	Personal.	Real Estate.	Total.	Dwellings.	Rate per $1,000.
1878	11,556	$12,067,440	$37,547,700	$49,615,140	8,037	$18.00
1879	11,892	11,892,898	37,345,200	49,238,098	8,137	17.00
1880	12,644	11,699,660	37,929,400	49,629,060	8,165	16.00
1881	13,678	12,401,390	38,691,900	51,093,290	8,331	16.00
1882	13,922	11,577,080	39,091,200	50,668,280	8,489	16.60
1883	14,870	11,975,640	39,821,700	51,797,340	8,572	16.40
1884	15,399¼	11,612,300	41,289,200	52,901,500	8,781	16.80

Abatements and discounts upon taxes for the past seven years : —

Year.	Total Tax.	Total Abatement.	Total Discounts at four per cent.	Amount of tax uncollected Dec. 1 of each year.	Amount uncollected Dec. 1, 1884.
1878	$935,227.04	$26,799.82	$30,061.05	$127,739.86	$7,086.67
1879	869,395.00	30,577.37	29,305.80	95,352.28	8,255.52
1880	826,079.23	17,142.79	28,383.13	72,534.65	7,787.28
1881	850,730.61	12,958.90	30,029.45	68,562.84	9,427.49
1882	873,793.41	12,230.20	30,783.78	64,448.68	8,897.18
1883	885,938.96	14,784.62	31,188.00	67,482.66	13,768.41
1884	937,938.64	11,210.31	32,926.83	79,726.52	79,726.52

Number of liquor licenses granted in Cambridge from 1875 to 1884, inclusive, and the amounts received for the same : —

Year.	No. of Licenses.	Amounts received.	Year.	No. of Licenses.	Amounts received.
1875	208	$25,125	1880	170	$21,375
1876	155	18,125	1881	155	19,675
1877	165	26,475	1882	105	18,625
1878	169	22,042	1883	200	32,425
1879	127	15,504	1884	212	35,025

Temporary loans for the past seven years, and the interest paid upon the same : —

Years.	Temporary Loan.	Interest paid upon the Loan.
1878	$445,000	$10,652.84
1879	352,000	7,230.20
1880	350,000	6,660.94
1881	575,000	9,933.48
1882	525,000	9,720.05
1883	600,000	14,880.25
1884	540,000	15,795.37

Annual Expenses of the Various City Departments for the past Seven Years.

CITY ACCOUNTS.	Expended. 1878.	Expended. 1879.	Expended. 1880.	Expended. 1881.	Expended. 1882.	Expended. 1883.	Expended. 1884.
Abatements and Discounts	$51,974.90	$60,373.44	$46,215.27	$44,766.89	$43,013.98	$45,972.62	$44,137.14
Bridges	6,697.55	2,639.73	2,292.18	2,519.16	5,902.84	2,345.30	13,499.72
Bridges (West Boston, Craigie, and Prison Point)	5,926.22	6,518.77	5,563.01	5,519.09	6,904.37	8,553.00	8,986.85
Cambridge Public Library	5,999.92	5,993.12	5,999.77	6,299.50	6,927.52	7,455.50	6,494.15
Cemeteries	10,360.03	9,393.18	10,256.81	11,587.69	13,644.25	15,908.73	14,312.85
Engineering	6,249.77	5,868.59	5,780.60	5,935.41	6,727.49	6,772.23	7,047 77
Fire Department	59,939.73	51,664.62	61,955.75	55,721.90	58,332.02	59,641.15	58,138.65
Health Department	1,332.43	1,316.08	1,290.16	1,697.10	1,795.84	1,426.90	2,286.76
Incidental Expenses	27,505.74	29,724.37	27,979.42	39,013.71	31,160.77	31,429.71	51,979.76
Interest	203,426.32	202,963.95	198,552.77	202,339.98	197,804.96	189,908.33	156,402.37
Interest on Water Loan	89,982.00	92,282.50	91,756.00	91,201.00	87,457.00	88,804.00	84,451.00
Lighting Streets	19,822.73	18,755.61	19,270.06	19,338.15	23,283.01	28,001.16	31,763.20
Pauper Department	21,320.59	16,773.57	15,162.69	17,331.43	14,114.38	14,869.84	19,106.77
Pauper Department (Almshouse)	16,653.95	15,885.88	16,581.59	16,402.54	22,284.63	18,853.64	19,447.05
Pauper Department (House Offal)	5,861.37	5,744.28	6,731.18	7,517.35	9,885.87	9,776.50	10,666.81
Police Department	65,395.66	59,848.49	56,083.61	57,013.33	61,896.64	68,101.37	74,218.59
Salaries	22,969.69	20,895.81	21,208.23	22,004.58	23,508.28	22,180.37	22,629.15
School Department (Drawing Schools)	687.09	722.17	705.50	751.68	854.00	749.00	949.70
School Department (Incidental Expenses)	4,953.08	1,383.90	1,369.31	1,318.83	1,608.78	1,249.40	1,253.22
School Department (Salaries)	133,491.20	132,570.49	130,371.75	132,501.10	151,239.55	144,457.60	152,766.00
School Department (Text-Books and Stationery)	3,135.41	3,272.12	3,450.87	3,107.45	3,659.18	2,855.49	14,761.90
School-Houses (Care and Repair)	23,124.80	22,484.32	26,711.63	30,024.39	37,027.71	28,946.83	34,926.48
School-Houses (New, and Furniture)	.....	.....	.....	.....	.....	16,553.45	17,304.34
Sewers (Construction)	5,742.22	4,968.07	3,308.01	9,489.67	24,459.11	26,779.87	16,644.77
Sewers (Maintenance)	3,795.98	2,842.59	10,554.40	8,011.96	10,711.26	11,495.74	17,220.16
Shade-Trees and Public Grounds	3.531.04	3,599.43	3,640.10	1,993.47	2,566.36	4,035.42	4,119.18
Sinking Funds	164,865.00	164,865 00	164,865.00	164,865.00	164,865.00	163,665.00	80,225.00
Sinking Fund of Water Works	45,480.00	45,855.00	45,855.00	45,855.00	44,355.00	44,355.00	42,705.00
State Aid	27,314.95	21,662.37	18,429.69	18,155.25	16,902.79	13,864.50	13,450.50
Stationery and Printing	3,850.67	3,140.47	4,222.74	3,072.35	3,142 34	3,225.61	3,276.07
Street Department (Construction)	1,999.57	.....	.....	.....	.....	.....	.....
Street Department (Paving)	6,996,30	5,124.64	5,993.76	6,444.51	11,357.19	7,158.96	18,176.43
Street Department (Repairs)	60,997.59	56,370.52	55,535.86	62,011.89	75,353.47	84,001 84	88,819.31
Street Department (Watering)	14,955.87	15,306.37	18,938.46	14,592.23	18,880.72	24,989.20	31,842.08
Street Department (Widening)	13,511.85	13,946.30	20,114.51	.....	.....	1,706.40	.....
Surrendered Estates (Care and Repair)	2,507.15	3,082.56	1,469.27	530.57	122.68	50.50	26.00
Water Works (Construction)	12,752.55	4,424.56	25,234.04	6,824.81	16,959.12	5,730.50	18,900.00
Water Works (Maintenance)	25,229.06	25,993.08	25,865.49	23,833.89	28,870.06	45,371.61	38,036.87
Water Works (Rates, Fines, etc.)	994.24	1,566.96	1,413.63	1.072.79	1,299.02	1,123.34	769.00
Water Works (Supplies)	1,754.79	1,534.20	1,995.21	2,928.68	3,684.63	4,028.74	5,234.96
Water Works Construction, Stony Brook Addl. Supply)	.....	.....	.....	.....	.....	.....	12,619.74
Totals	$1,207,635.70	$1,144,428.02	$1,163,162.33	$1,143,594.53	$1,232,561.82	$1,256,394.35	$1,241,062.48

Latest Official Financial Statement of the bonded debt, assessed valuation, population, and tax-rate of several cities in different parts of the United States.

State.	City.	Debt.	Assessed Valuation.	Population.	Tax-rate per $1,000.
New England States.					
Maine	Bangor	$700,000	$10,034,712	17,000	$26.00
"	Portland	1,802,500	33,030,020	35,000	20.00
New Hampshire	Manchester	997,028	26,741,314	38,000	17.50
Massachusetts	Boston	42,981,934	682,648,000	400,000	17.00
"	Cambridge	3,356,500	53,548,691	64,000	16.80
"	Chelsea	1,600,720	17,374,335	26,000	18.40
"	Fall River	3,498,861	45,798,860	50,000	18.80
"	Lawrence	1,706,476	27,261,661	45,000	16.80
"	Lowell	3,247,800	51,170,095	71,000	17.50
"	Lynn	1,404,368	27,548,581	43,000	18.40
"	Worcester	3,487,700	50,770,875	70,000	16.60
Rhode Island	Providence	9,992,817	122,496,500	116,755	14.50
Connecticut	Hartford	3,267,457	48,056,034	48,000	20.00
"	New Haven	598,515	48,000,000	75,000	20.00
Middle Atlantic States.					
Delaware	Wilmington	1,414,950	28,000,000	45,000	15.50
Maryland	Baltimore	5,582,652	248,803,232	408,520	16.87½
New Jersey	Jersey City	18,263,418	65,500,000	120,722	29.80
New York	Albany	3,361,000	67,230,855	90,903	19.60
"	Brooklyn	37,048,180	317,849,850	650,000	26.00
"	New York	134,000,000	1,338,298,343	1,365,262	22.50
Pennsylvania	Philadelphia	64,182,191	597,785,428	846,980	18.50
Virginia	Norfolk	2,154,864	11,498,689	22,500	20.00
South Atlantic States.					
Alabama	Mobile	2,320,000	13,500,000	32,000	26.00
Florida	Jacksonville	271,839	3,246,000	19,000	20.00
Georgia	Augusta	2,000,000	18,020,000	22,500	18.70
"	Savannah	3,750,000	12,500,000	41,860	30.00
Louisiana	New Orleans	15,926,684	114,628,814	217,000	20.00
South Carolina	Charleston	4,074,850	24,000,000	57,000	20.00
Texas	Galveston	1,625,000	20,000,000	35,000	13.00
Central States.					
Illinois	Chicago	12,751,500	133,230,504	560,693	34.10
"	Springfield	872,750	4,643,633	30,000	30.00
Indiana	Indianapolis	1,914,500	53,986,040	90,000	21.00
Iowa	Des Moines	673,159	75,000,000	40,000	24.50
Kentucky	Louisville	9,305,000	66,118,534	123,758	23.50
Michigan	Detroit	947,500	105,910,925	130,000	11.40
Minnesota	Minneapolis	2,453,000	75,000,000	100,000	20.00
"	St. Paul	2,895,000	43,000,000	100,000	24.50
Missouri	St. Louis	22,105,000	191,522,490	360,000	22.50
Ohio	Cincinnati	23,907,474	169,925,286	255,708	20.50
Tennessee	Nashville	1,478,100	22,197,850	55,000	24.50
Wisconsin	Milwaukie	2,633,500	70,787,502	130,000	23.50
Western States.					
California	San Francisco	5,163,000	220,995,803	240,000	18.00

REPORT

OF

THE CITY TREASURER.

OFFICE OF CITY TREASURER, Dec. 1, 1884.

To the Honorable the City Council:—

THE undersigned respectfully presents the annual report of the transactions of the City Treasury for the year ending Nov. 30, 1884. The detailed account hereto appended shows that the

Cash balance in the treasury, Nov. 30, 1883, was . . .	$73,181.01
The amount received during the year ending Nov. 30, 1884, was	2,798,830.55
	$2,872,011.56
The authorized payments during the year amounted to . .	2,762,567.10
Leaving a balance in the treasury, Nov. 30, 1884, of . .	$109,444.46

Respectfully submitted,

WM. W. DALLINGER, *City Treasurer.*

CITY OF CAMBRIDGE IN ACCOUNT CURRENT FROM DEC. 1, 1883, TO

Dr.

To authorized payments charged to City Accounts as follows:—

Abatements and Discounts	$44,137.14
Bridges	13,365.01
Bridges (West Boston, Craigie's, and Prison Point)	8,424.04
Cambridge Public Library	7,595.33
Cemeteries	15,186.20
Engineering	7,060.89
Fire Department	57,467.54
Health Department	2,144.25
Incidental Expenses	49,214.01
Interest	156,402.37
Interest on Water Loan	84,451.00
Lighting Streets	31,394.42
Loan, Funding	99,000.00
Loan, Water	1,100.00
Loan, Building	200,000.00
Loan, Low Land	285,000.00
Loan, Temporary	540,000.00
Loan, Bridge	94,000.00
Loan, Taxes 1884	155,000.00
Pauper Department	18,872.18
Pauper Department (Almshouse)	19,010.17
Pauper Department (House Offal)	10,466.76
Police Department	73,570.06
Salaries	22,616.50
School Department (Evening Schools)	1,243.02
School Department (Drawing Schools)	917.00
School Department (Incidental Expenses)	1,544.13
School Department (Salaries)	151,811.00
School Department (Text-Books and Stationery)	14,333.38
School-Houses (Care and Repairs)	34,575.29
School-Houses (New, and Furniture)	17,351.79
Sewers (Construction)	20,310.41
Sewers (Maintenance)	16,938.08
Shade-Trees and Public Grounds	4.135.41
Sinking Funds	80,225.00
Sinking Fund of Water Works	42,705.00
State Aid	13,466.25
Stationery and Printing	3,235.53
Street Department (Paving)	16,447.62
Street Department (Repairs)	88,790.02
Street Department (Watering)	31,499.85
Surrendered Estates (Care and Repairs)	26.00
Surrendered Estates (Sale Account)	249.51
Tax (National Bank)	11,378.60
Tax (County)	32,760 66
Tax (State)	104,615.00
Tax Lien Account	737 57
Water Works (Construction)	28,434.65
Water Works (Maintenance)	43,018.81
Water Works (Rates, Fines, etc.)	769.00
Water Works (Supplies)	5,570.65
Total payments	$2,762,567.10
Cash balance in the treasury, Nov. 29, 1884	109,444.46
	$2,872,011.56

NOV. 30, 1884, WITH WILLIAM W. DALLINGER, *City Treasurer.*

Cr.

By Cash received and credited to City Accounts as follows:—

Bridges	$113.50
Bridges (West Boston, Craigie's, and Prison Point)	224.46
Cambridge Public Library	2,820.49
Commissioners of Sinking Funds	688,000.00
Cemeteries	12,533.77
Cemetery Fund	1,000.00
City Lands	2,761.76
Engineering	20.00
Fire Department	706.18
Incidental Expenses	39,864.07
Interest	3,890.05
Lighting Streets	63.42
Loan, Water	36,000.00
Loan, Temporary	540,000.00
Loan, Taxes 1885	171,000.00
Notes Receivable	2,002.72
Pauper Department	4,824.87
Pauper Department (Almshouse)	6,036.46
Pauper Department (House Offal)	6,449.96
Police Department	5,242.96
School Department (Salaries)	997.12
School-Houses (Care and Repairs)	3.06
Sewers (Construction)	10,045.56
Sewers (Maintenance)	1,982.89
Shade-Trees and Public Grounds	34.75
State Aid	25,064.50
Street Department (Paving)	1,614.76
Street Department (Repairs)	1,167.00
Street Department (Watering)	9,383.75
Surrendered Estates (Care and Repairs)	132.00
Surrendered Estates (Sale Account)	8,406.56
Tax (Corporation)	92,851.79
Tax (National Bank)	40,644.75
Taxes, 1880	107.60
Taxes, 1881	74.00
Taxes, 1882	1,816.14
Taxes, 1883	53,747.05
Taxes, 1884	858,212.12
Tax Lien Account	116.35
Water Works (Construction)	1,207.20
Water Works (Rates, Fines, etc.)	162,811.27
Water Works (Supplies)	4,855.66
Total receipts	$2,798,830.55
Cash balance in the treasury, Dec. 1, 1883	73,181.01
	$2,872,011.56

WM. W. DALLINGER, *City Treasurer.*

REPORT

OF THE

COMMISSIONERS OF THE SINKING FUNDS OF THE CITY OF CAMBRIDGE.

To the Honorable City Council: —

THE undersigned, Commissioners of the Sinking Funds of the city, in compliance with the ordinance, herewith present their ninth annual report: —

Dr.

Amount of the funds, Dec. 1, 1883, was	$1,120,317.19
Amount of interest received during the year on investments	47,989.33
Amount received from the City of Cambridge, derived from taxation	80,225.00
Amount of premium received during the year on securities sold	31,376.56
	$1,279,908.08

Cr.

Amount paid the City Treasurer of Cambridge to meet Building Loan bonds, maturing April 1, 1884 . . .	$198,000.00
Also Low Land Loan bonds, maturing April 1, 1884 . .	240,000.00
" Bridge Loan bonds, maturing July 1, 1884 . . .	94,000.00
" Funding Loan bonds, maturing July 1, 1884 . . .	100,000.00
" Low Land Loan bonds, maturing Oct. 1, 1884 . .	56,000.00
Amount paid accrued interest on $3,000 Cambridge bonds purchased	18.83
Amount paid City of Cambridge for interest on advance payment	1,660.21
Amount paid for premium of $3,000 Cambridge bonds, due July 1, 1884	32.50
Present amount of the funds, all securities at par . . .	590,196.54
	$1,279,908.08

We present the account of the year's transactions in another way: —

Our cash balance on hand at date of last report was . . .		$9,299.73
Our City of Cambridge bonds, maturing during the year, amounted to		72,000.00
Other bonds maturing during the year, amounted to . . .		14,000.00
We received from the City of Cambridge, amount derived from taxation		80,225.00
We received during the year a gross income from interest of	$47,989.33	
From which is deducted interest paid	$1,679.04	
And premium on $3,000 bonds purchased	32.50	
	1,711.54	
		46,277.79
We received from sale of U. S. Government bonds, amounting to		117,300.00
a premium amounting to		22,204.06
From sale of State, City, and Town bonds, amounting to .		315,000.00
we realized a premium of		9,172.50
From the (gravel) note maturing in the year, we received .		2,717.46
		$688,196.54

We paid to the City Treasurer, to meet the bonds maturing during the year	$688,000.00	
Our cash balance on hand is	196.54	
		$688,196.54

The average rate of interest which the funds are now earning is 5.60.

SECURITIES BELONGING TO THE SINKING FUNDS, NOV. 30, 1884.

Cambridge Funding Loan, six per cent bonds, maturing July 1, 1885	$24,000.00	
Cambridge Bridge Loan, six per cent bonds, maturing July 1, 1885	26,000.00	
Cambridge Building Loan, six per cent bonds, maturing July 1, 1885	17,000.00	
Cambridge Low Land Loan, six per cent bonds, maturing July 1, 1885	122,000.00	
Amount carried forward		$189,000.00

Amount brought forward		$189,000.00
Cambridge Low Land Loan, six per cent bonds, maturing July 1, 1886	27,000.00	
Cambridge Street-widening Loan, six per cent bonds, maturing July 1, 1886	3,000.00	
Cambridge City Loan, six per cent bonds, maturing July 1, 1886	1,000.00	
Cambridge Low Land Loan, five per cent bonds, maturing Oct. 1, 1887	120,000.00	
Cambridge Sewer Loan, six per cent bonds, maturing July 1, 1896	11,000.00	
Cambridge Street-widening Loan, six per cent bonds, maturing July 1, 1904	90,000.00	
Cambridge Sewer Loan, six per cent bonds, maturing July 1, 1904	2,000.00	
Cambridge Street-widening Loan, six per cent bonds, maturing July 1, 1905	14,000.00	
Cambridge Sewer Loan, six per cent bonds, maturing July 1, 1905	49,000.00	
		$506,000.00
Town of Woburn five per cent bonds, maturing July 2, 1887	$20,000.00	
City of Providence four and a half per cent bonds, maturing June 1, 1899	64,000.00	
		84,000.00
Cash in bank		196.54
		$590,196.54

The bonded city debt which the foregoing sinking funds are expected to pay matures as follows, viz. : —

July 1, 1885, Bridge Loan bonds	$26,000.00
July 1, 1885, Building Loan bonds	17,000.00
July 1, 1885, Funding Loan bonds	24,000.00
July 1, 1885, Low Land Loan bonds	122,000.00
July 1, 1886, City Loan bonds	100,000.00
July 1, 1886, Low Land Loan bonds	60,000.00
July 1, 1886, Street-widening Loan bonds	7,000.00
Oct. 1, 1887, Low Land Loan bonds	120,000.00
April 1, 1889, City Loan bonds	100,000.00
July 1, 1890, City Loan bonds	20,000.00
Jan. 1, 1893, City Loan bonds	150,000.00
July 1, 1893, Land Loan bonds	10,000.00
July 1, 1893, Paving Loan bonds	100,000.00
July 1, 1893, Street Loan bonds	13,000.00
July 1, 1894, Paving Loan bonds	130,000.00
July 1, 1895, Paving Loan bonds	25,000.00
Oct. 1, 1895, Sewer Loan bonds	20,000.00
July 1, 1896, Sewer Loan bonds	29,000.00
July 1, 1903, Sewer Loan bonds	136,000.00
July 1, 1903, Street-widening Loan bonds	10,000.00
July 1, 1904, Sewer Loan bonds	295,000.00
July 1, 1904, Street-widening Loan bonds	90,000.00
July 1, 1905, Sewer Loan bonds	144,000.00
July 1, 1905, Street-widening Loan bonds	14,000.00
	$1,762,000.00

This result shows a larger reduction of bonded debt than in any past year of the city. The payment of $688,000 of 6 per cent city bonds, or more than two-thirds of a million of dollars, in a single year is a rare occurrence for any municipality ; and if added to $605,000, paid last year, gives the amount of $1,293,000, or upwards of a million and a quarter of bonded indebtedness, cancelled since April 1, 1883, and a total of $1,674,000 since 1877, making an average of nearly $240,000 yearly for the whole term. The funded debt of Cambridge, exclusive of the water debt, is now $1,762,000. The present amount of assets of the fund towards its payment is $590,196.54, leaving the net amount of funded debt $1,171,803.46, or about

$2\frac{1}{5}$ per cent on the present valuation of the city, of $53,000,400. In 1877 the percentage of the city debt, on its valuation, $55,755,050, was nearly 5 per cent. The debt is now reduced to about the amount outstanding in 1867, previous to the large outlays for the filling of the low land districts, new city buildings, and expensive main sewers. Of the debt for low land filling, of $884,000, there has been paid since 1882, $582,000. Of the Building Loan of $334,000, there has been paid during 1883 and 1884, $317,000. Of the Bridge Loan of $120,000, there has been paid this year $94,000. Bonds of the city will mature in 1885 to the amount of $189,000; in 1886, $167,000; in 1887, $120,000; in 1889, $100,000; and in 1890, $20,000; after which none will mature until 1893. These amounts will all be met easily from the fund at their maturity. The Board would also remind the City Council that the amount fixed by them under the Statute of 1875, as due the Sinking Fund for this year, due notice of which was given, in writing, to the Auditor, as provided, was $115,265, of which only $80,225 has been received, leaving the sum of $35,040 as still (November 30) due to the fund. Our duty is made clear by section 5, chapter 34, of the City Ordinances, which reads as follows, viz.:

"The Board shall, at the close of each financial year, certify to the Auditor the amount hereunder required to be raised by taxation for the several funds, which amount shall be put into the yearly appropriations the next succeeding year." The time is here definitely fixed when such sum shall be computed upon the actual debt as it then exists, and consequently no future payment of any portion of the debt can change the amount as fixed by the Commissioners at the time named in the Ordinance. A compliance with this section will require the payment of the amount stated above as now overdue. Unless this sum is now paid, the fund will not suffice to meet the full debt at maturity. We have therefore included the sum of $35,040, the amount overdue, in the amount we have asked for the year 1885. In no other way can the fund accomplish the result intended by the Act of 1875. The success of this fund already in paying off the heavy indebtedness of 1877, without in a single case making a renewal or an extension of the city debt, affords the best argument for a strict compliance with the Statute under which it was created. Our city can ill afford to neglect, or fail to

observe in good faith, all the requirements imposed by this Act.

The effect of the payment of $1,293,000 of city bonds since April, 1883, will be the saving of the interest on this amount, $77,580, and also the amount raised annually on this sum for the fund, $103,440, making a total of $181,020 from the tax levy of 1883, or about $3.30 per $1,000 on our present valuation.

The assets of the fund sold for the payment of $688,000 of bonds due this year gave a profit, above their cost, of $31,376.56.

Respectfully submitted,

CHAS. H. SAUNDERS,
J. M. TYLER,
ROBT. DOUGLASS,
JOSEPH A. HOLMES,
GEO. T. GALE,
K. S. CHAFFEE,

Commissioners of the Sinking Funds of the City of Cambridge.

CAMBRIDGE, Dec. 19, 1884.

REPORT

OF THE

TRUSTEES OF THE SINKING FUND OF THE CAMBRIDGE WATER WORKS.

To the Honorable the City Council : —

THE undersigned, Trustees of the Sinking Fund of the Cambridge Water Works, herewith submit their annual report of the fund committed by law to their charge : —

The amount of the fund, Nov. 30, 1883, was	$496,896.95
There has been received during the year interest on investments amounting to	33,377.49
There has been received during the year, as premium on securities sold	8,934.69
The City of Cambridge has given us its contingent note of	200,000.00
There has been received from the City of Cambridge, derived from water-rates, an amount equal to three per cent on amount of outstanding water bonds, viz. . . .	42,705.00
There has been received from the City of Cambridge the surplus income of the Water Works during 1883 and 1884, viz.	9,271.54
	$791,185.67

CONTRA.

Amount paid as accrued interest on securities purchased during the year	$626.66	
Amount paid as premium on securities purchased for investment	3,397.45	
		4,024.11
Leaving the amount of the fund, Nov. 30, 1884, all securities taken at par		$787,161.56

The following is a list of the securities belonging to the fund: —

Cambridge Water Loan, six per cent coupon bonds, maturing April 1, 1887	$6,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing April 1, 1888	25,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing May 1, 1889	8,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing July 1, 1890	31,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing May 1, 1891	26,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing July 1, 1892	1,000.00	
Cambridge Water Loan, four per cent coupon bonds, maturing Nov. 1, 1894	6,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing April 1, 1895	37,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing July 1, 1896	46,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing July 1, 1897	16,000.00	
Cambridge Water Loan, five per cent registered bonds, maturing July 1, 1898 . . .	12,500.00	
Cambridge Contingent Loan, four per cent note, dated Dec. 1, 1883	200,000.00	
		$414,500.00
City of Boston, five per cent coupon bonds, maturing April 1, 1885	$8,000.00	
City of Boston, five per cent coupon bonds, maturing Jan. 1, 1886	1,000.00	
City of Burlington, Vt., six per cent coupon bonds, maturing July 1, 1886	500.00	
City of New Bedford, four per cent coupon bonds, maturing Oct. 1, 1889	8,000.00	
City of Gloucester, four and one half per cent coupon bond, maturing July 1, 1890 .	5,000.00	
Town of Norwalk, Conn., four per cent coupon bond, maturing at pleasure of town after Jan. 1, 1891	20,000.00	
Amounts carried forward	$42,000.00	$414,500.00

Amounts brought forward	$42,000.00	$414,500.00
Town of Hyde Park four per cent bond, maturing July 1, 1891	5,000.00	
Town of Waltham, four per cent coupon bonds, maturing Sept. 1, 1891	46,000.00	
City of Salem, four per cent coupon bonds, maturing July 1, 1892	17,000.00	
Town of Stoughton, four per cent coupon bond, maturing Aug. 10, 1893	2,000.00	
City of Keene, N. H., four per cent coupon bonds, maturing July 1, 1894	5,000.00	
Town of Hopkinton, four per cent coupon bonds, maturing Oct. 1, 1894	5,000.00	
City of Fall River, four per cent coupon bonds, maturing May 1, 1895	9,000.00	
City of Keene, N. H., four per cent coupon bonds, maturing July 1, 1895	3,000.00	
Town of Stoughton, four per cent coupon bond, maturing Aug. 10, 1895	2,000.00	
City of Fall River, five per cent coupon bonds, maturing May 1, 1898	2,000.00	
Town of Arlington, five per cent coupon bonds, maturing July 1, 1898	30,000.00	
City of Boston, four per cent coupon bonds, maturing Jan. 1, 1899	50,000.00	
Town of Pawtucket, R. I., five per cent coupon bonds, maturing April 1, 1899 . . .	25,000.00	
City of Providence, four and one half per cent coupon bonds, maturing June 1, 1899 . .	21,000.00	
City of Boston four per cent registered bond, maturing April 1, 1900	4,000.00	
City of Fall River, four per cent coupon bonds, maturing Aug. 1, 1900	13,000.00	
City of Providence, five per cent registered bonds, maturing July 1, 1906	50,000.00	
Town of Winchester, four per cent coupon bonds, maturing May 1, 1908	10,000.00	
Town of Beverly, four per cent coupon bonds, maturing July 1, 1911	20,000.00	
Cash in First National Bank of Cambridge .	11,161.56	
		$372,661.56
		$787,161.56

The bonded water debt, which the foregoing fund is expected to pay, matures as follows, viz. : —

July 2, 1886	$100,000.00
April 1, 1887	150,000.00
April 1, 1888	175,000.00
May 1, 1889	112,000.00
July 1, 1890	60,000.00
May 1, 1891	50,000.00
July 1, 1892	335,000.00
April 1, 1894	150,000.00
Nov. 1, 1894	36,000.00
April 1, 1895	160,000.00
July 1, 1896	103,000.00
July 1, 1897	16,000.00
July 1, 1898	12,500.00
	$1,459,500.00

Since our last report we have received from the City of Cambridge its note for $200,000, on which 4 per cent interest is to be paid annually to this fund. One year's interest, or $8,000, was paid during the past year, and is included in the foregoing report. One or two changes in our investments, together with the surplus shown in the management of the Water Works for the years 1883 and 1884, which we have received, very materially increase the capital of the fund, making it a strong guaranty for the payment of our bonded water debt, which in 1886 will begin yearly to mature with welcome regularity.

JAMES A. FOX,
GEO. H. HOWARD,
WM. W. DALLINGER,
Trustees of the Sinking Fund of the Cambridge Water Works.

REPORT

OF THE

TRUSTEES OF THE DOWSE INSTITUTE.

CAMBRIDGE, MASS., Nov. 29, 1884.

To the Honorable City Council of Cambridge: —

THE Board of Trustees of the Dowse Institute respectfully transmits an attested copy of the accounts of the treasurer, showing the exact amount of receipts and expenditures to date.

A course of ten scientific and literary entertainments of the highest character attainable was begun on Thursday evening, November 6, of the present year, in Union Hall, Cambridgeport, and will close on Tuesday evening, Jan. 6, 1885.

W. W. WELLINGTON,
W. A. BULLARD,
FRANK A. ALLEN,
JAMES A. FOX,
GEO. H. HOWARD,
} *Board of Trustees.*

REPORT

OF THE

TRUSTEES OF THE BRIDGE CHARITABLE FUND.

To the Honorable City Council : —

THE Trustees of the Bridge Charitable Fund present herewith their eighth annual report in relation thereto.

As was stated in the report for the year 1883, this fund is already sufficiently large to entitle the Overseers of the Poor to a portion of the interest accruing from year to year. The portion of such interest to which the Overseers were entitled was tendered to them in 1882 and 1883 ; but the amount being small, it was deemed advisable to retain the same, to be added to the fund with the remainder of the interest accumulation. The entire fund is represented by actual cash deposited in the Cambridgeport Savings Bank, and the amount, Jan. 19, 1884, was $2,319.08. With the added interest to Jan. 19, 1885, the fund will have reached the sum of $2,412.76. Of the interest accruing in 1884, the sum of $31.23 will be due and payable to the Overseers of the Poor.

The amount of the fund to Jan. 19, 1885, will be	$2,412.76
The amount of the fund to Jan. 19, 1884, was	2,319.08
Increase	$93.68

The history of this fund has been fully given in the reports of preceding years.

Mr. Levi Bridge, by whom it was originally established, was many years ago engaged in business in East Cambridge. Through subsequent pecuniary losses, followed by severe illness, he became for a time a public charge, and was for a long

period lost sight of by his relatives. He was at length discovered and cared for by them, thus ceasing to be a pauper. He had opportunities for gathering small sums of money, which he carefully saved, until he had accumulated the amount which was ultimately given by him to the city.

This trust, to which an addition was made by the venerable Samuel J. Bridge, a relative of the original donor, though not likely to be of immediate benefit to the class named in the instrument of bequest, will doubtless, in a few years, become capable of furnishing timely aid to many who may be in need.

JAMES A. FOX,
GEO. H. HOWARD, } *Trustees.*
GEO. W. GALE,

CAMBRIDGE, Dec. 31, 1884.

REPORT

OF THE

TRUSTEES OF THE SANDERS TEMPERANCE FUND.

To the Honorable City Council: —

THE nineteenth annual report of the Trustees of the Sanders Temperance Fund is herewith presented.

There is little to add to what has been stated in reports of preceding years. The terms of the bequest of this fund to the city have been complied with, in accordance with the best interpretation thereof that the wisdom of past City Councils has been able to give them. Mr. Alonzo Stewart, who has so faithfully labored as missionary under the provisions of the will of Mr. Sanders, was reappointed for the year 1884, and has rendered efficient service in behalf of those in whose interest the fund was established. The trustees have met from time to time and received full information of the doings of the Missionary, and have an assured confidence that his labors have been productive of much good.

The fund, amounting to the sum of $10,000, continues to be represented by a note for like amount, held by the City Treasurer, and payable to the order of the Trustees. The salary of the Missionary, amounting to $600, represents the interest upon the above-named sum, at six per cent.

The usual annual report of Mr. Stewart is appended hereto.

JAMES A. FOX,
GEO. H. HOWARD,
N. C. LOMBARD,
CHARLES W. HENDERSON,
} *Trustees.*

CAMBRIDGE, Dec. 31, 1884.

REPORT

OF THE

SANDERS TEMPERANCE FUND MISSIONARY.

To the Trustees of the Sanders Temperance Fund : —

GENTLEMEN, — Another year of joy and sorrow, of success and failure, hopes *realized* and hopes *blasted*, has come to a close. We now stand where we can look back along the way we have travelled, and review the scenes through which we have passed.

Happy the man who can hear the voice of an approving conscience saying, " Well done, good and faithful servant ! " Not so is the heart of your Missionary cheered as he reviews the past year, and sees what *ought* to have been accomplished, and yet so little done. Doubtless, seeds of good have been sown that may spring up and bear fruit, long after the sower has gone to his reward.

I have pursued nearly the same line of action as in former years, seeking earnestly to comply with the expressed wishes of the noble founder of this charitable mission. In pursuance of this object I have had personal conversation with twelve hundred and eighty persons, brought before the Court for drunkenness and kindred vices ; I have distributed twenty-two thousand seven hundred and nineteen pages of temperance and religious literature, collected by personal effort ; have attended more than two hundred temperance meetings, and taken sixty pledges of total abstinence from all intoxicating drinks from persons brought before the Court.

I have been present at the daily sessions of the Police Court with the exception of the usual vacation ; have visited the House of Correction, and endeavored in all ways to help weak

and erring humanity overcome the habit which causes more wretchedness, want, and woe than all other vices combined.

And, finally, may we all be so faithful in meeting our responsibilities toward the weak and erring, that when we stand before the Judge of the quick and dead, on that day for which all other days were made, we may hear the blessed words: "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me"!

ALONZO STEWART.

CAMBRIDGE, Dec. 1, 1884.

ANNUAL REPORT

OF THE

OVERSEERS OF THE POOR OF CAMBRIDGE.

CAMBRIDGE, Dec. 22, 1884.

To the Honorable the City Council of the City of Cambridge: —

GENTLEMEN, — The Board of Overseers of the Poor of the City of Cambridge herewith respectfully presents its annual report for the year ending Nov. 30, 1884.

The system of aiding the poor has been continued by the Board as formerly.

The term of service of Sumner Albee expired May 1, and he was re-elected by the City Council.

Dr. Lewis L. Bryant, the Assistant City Physician, was re-appointed in May last, and has continued to render efficient service in the medical care of the poor of the city.

Of professional visits 1,987 have been made since Nov. 30, 1883, to 438 patients outside the Almshouse. Of this number 164 had a legal settlement in Cambridge, and 55 were born in this city. Of the total number 70 were males and 94 were females. Fourteen women have been attended in childbirth outside the institution; 62 persons have been vaccinated since Nov. 30, 1883; 15 persons have been attended at the police stations; 8 patients have been sent to the hospital for treatment; 26 persons have been examined relative to insanity; 29 persons have died outside the Almshouse.

The practice of taking histories of the applicants for aid has been continued, and 412 of these histories have been taken within the past year, embracing 1,003 persons, — 315 of whom are settled in Cambridge, 265 in other cities and towns, and

423 are State paupers; 71 histories, also, have been revised, under the changes in the pauper laws, within the year.

The number of paupers supported by the city at the various institutions within the past year was as follows: —

City Almshouse	268
State Almshouse	2
State Reform School	5
State Industrial School	2
State Primary School	1
Middlesex House of Correction	1
State Lunatic Hospitals	68
	347

The expenditures for outside aid have been $19,106.77. Of this amount $9,648.42 has been expended for the 68 insane at the State hospitals (26 new cases the present year) who have a settlement in Cambridge, against $6,783.57 last year. This is an increase of $2,864.85, or nearly 33 per cent in one year of the cost to the city for its insane poor.

This large sum would have been much increased but for the 27 cases of the mildly insane class — 18 of whom were removed from the State hospitals — cared for at the Almshouse.

The Board desires to call your attention to this fact that you may inquire as to what proportion of this is due to the continued sale, and the increase of licensed places for the sale, of intoxicating liquors.

The receipts have been $4,824.87, leaving a total cost of $14,281.90 for the support of the poor outside the Almshouse.

Almshouse.

Total number of inmates during the year	268
Total number present Nov. 30, 1884	143
Average monthly number	144

The report of the warden, William E. Hough, shows that of the 154 inmates admitted during the year, 142 entered on the Overseers' permits, and 12 were sentenced by the court; 8 boys have been sentenced to the Almshouse truant-school during the

year. Of the 268 inmates present within the year 180 were adults and 88 were minors. There have been 125 discharged, 80 being males, and 45 females.

Included in the total number of inmates present Nov. 30, 1884, are 27 of the chronic mildly insane class, 10 of whom are males, and 17 females. These are cases transferred, after careful investigation, to the Almshouse. The Overseers have cared for nearly as many of this class as their accommodations have permitted.

The city school, which is under the care and control of the School Committee, has numbered 57 pupils during the year, and 27 were present at its close. Miss Julia S. Gushee has taught the school during the year.

Of medical visits to the Almshouse 175 have been made, and 67 persons have been attended therein. There have been 14 deaths at the institution during the year, mostly of chronic diseases; 9 of these were males, and 5 females. This large number of deaths is due to the fact that some of those who were admitted were in the last stages of disease, 9 having died within three months after their admission to the Almshouse, and some of these within a few days. Sixty-seven patients have been treated in the hospital wards of the Almshouse, and 4 in the pest-house. Fourteen patients were present on Nov. 30, 1884, in the Almshouse hospital wards. One woman in the institution has been attended in childbirth.

A schedule of personal property of the Almshouse, as presented in detail by the warden, shows a valuation of $12,592.11.

The expenditures for the Almshouse during the year have been $17,498.86, and the receipts have been $1,828.39, leaving a total cost of $15,670.47.

Farm and Ledge.

Two hired men have been regularly employed on the quarry, and the male inmates of the Almshouse have also labored there, when not otherwise employed. The practice of requiring all able-bodied male persons applying for aid to work on the ledge, in return for aid received from the city, has been continued with gratifying success; 24 men of this class have worked 391 days within the past year.

The expenditures for the farm and ledge have been during the past year $1,948.19, and the receipts have been $4,208.07, leaving an excess of receipts over expenditures of $2,259.88.

Perches of stone to the number of 766⅔, valued at $766.67, have been supplied to the city for the new city hospital, which amount, if added to the receipts, would make a total of $4,974.74.

House Offal.

This department, under the voluntary charge of the Board of Overseers, and not to be included in the expenditures for the care of the poor, has been managed in the same manner as formerly.

The expenditures during the year have been $10,666.81, and the receipts have been $6,449.96. The net cost for the collection of the city offal has been $4,216.85, an increase of $259.90 over last year.

Recapitulation.

Total expenditures, outside aid	$19,106.77
Total receipts	4,824.87
Net cost	$14,281.90
Total expenditures, Almshouse, Farm, and Ledge	$19,498.86
Total receipts	6,036.46
Net cost	$13,462.40
Total expenditures, exclusive of house offal	$38,553.82
Total receipts	10,861.33
Net cost of care of the poor	$27,692.49

Respectfully submitted,

JAMES A. FOX,
J. C. WELLINGTON,
CHAS. E. VAUGHAN,
SUMNER ALBEE,
GEO. D. CHAMBERLAIN,
K. S. CHAFFEE,

Overseers of the Poor of Cambridge.

ANNUAL REPORT

OF THE

TRUSTEES OF THE CAMBRIDGE PUBLIC LIBRARY.

To the City Council of Cambridge:—

THE Trustees have the honor to present their annual report, being the twenty-seventh since the opening of the library, and the sixth under the title of the Cambridge Public Library.

It is gratifying to notice an increase in the circulation of volumes from the library, it being 2,543 over that of 1883, and the largest since 1881. It would have shown a much larger increase, but the Trustees were obliged to close the library from October 27 until November 6, a period of ten days, during which time no books were issued. During that time the rooms were put in thorough repair, paint and whitening doing its cleansing work, and a new carpet — much needed — was placed in the larger room. The expense upon the walls and ceilings was borne by the owners of the building, but the Trustees were obliged to expend quite a sum in placing the furniture and fixtures in a condition to match the improvements which were going on. But the great need of a building for the library is still imperative, and when we see our sister cities and towns erecting fine substantial buildings for the accommodation of their libraries, it would seem as if the second city in wealth in the Commonwealth cannot much longer delay the erection of such a building; for not only are our shelves crowded with books, but we have no suitable place where a person can come in, and, undisturbed, consult the reference books, or spend a leisure hour in quiet study.

The need of a new catalogue is so apparent that we feel justified in asking a special appropriation of $1,000 to begin the work in the coming year. The whole expense will probably amount to $3,000; but the work could be extended over a period of two years. We have issued our fifth supplement the present year, and it can easily be seen that the six catalogues and several bulletins which one must consult are hardly a proper record of the list of books.

The matter of more hours in which to keep the library open has been under discussion by the Trustees. Originally the library was open one afternoon in the week, then two, later three, and since 1874 it has been kept open from two o'clock till eight every afternoon. It would seem that a city with the number of inhabitants that Cambridge contains should have more hours for the convenience of its citizens in which to avail themselves of its benefits; it would reduce the pressure on the library, as the time is short between the opening of the library and the close of the public schools, when the rooms are very apt to be crowded by the school children. It would necessitate an additional expense, which fact, considering the pressing need of a new catalogue and the state of the city's finances, deters the Trustees from pressing the matter at the present time.

In the early part of the year John Conlan, a member of the Board of Trustees, was taken from us by death, and we wish to place on record our testimony to his worth as a man and as a member of this Board. Resolutions of respect to his memory were placed on our records, and a copy sent to the family of the deceased.

For a period of about fifteen years our associate upon the Board, John S. March, Esq., gave earnest and valuable service to this trust. His removal from the city led to his resignation, September, 1884.

The Trustees would ask of the City Council the sum of $6,500 for current expenses for 1885, and an additional appropriation of $1,000 for a new catalogue.

The report of the Librarian is herewith submitted as part of our report, and information in regard to the library will be ound therein.

Expenditures.

Salaries, — librarian, assistants, janitor, etc.	$2,423.59
Rent of rooms	1,000.00
Books, papers, etc.	1,427.48
Gas, water-rates, and ice	318.29
Printing, stationery, etc.	193.00
Binding, and repairs on books	436.99
New supplement, No. 5	304.00
General repairs, — desk, cases, etc.	260.83
Carpet	90.25
Petty expenses, — expressage, etc.	39.92
	$6,494.35

Respectfully submitted,

SAM'L L. MONTAGUE,
HERSEY B. GOODWIN,
HENRY H. GILMORE,
C. G. H. BENNINK,
JABEZ A. SAWYER,
SAMUEL W. McDANIEL,
JOSEPH J. KELLEY,
Trustees of Cambridge Public Library.

LIBRARIAN'S ANNUAL REPORT.

To the Trustees of the Cambridge Public Library : —

GENTLEMEN, — In presenting her eleventh annual report, the Librarian finds it necessary again to call your attention to the two most urgent needs of the library. First, a new complete catalogue ; second, more room for books and general library purposes. The recent renovation of our present rooms may necessitate our remaining here for two or three years. Beyond that time, at the present rate of increase, it would be impossible for the library to occupy its present limited quarters.

The need of a complete catalogue is already imperative. A stranger wishing to ascertain if a certain history of England, for instance, is in the library, must look through nine different lists of books, and the number of lists will this coming year reach twelve, at least. Let him be ever so patient and intelligent, he is liable to become puzzled and confused, and forced at last to appeal to the Librarian to know if such a work is here. Those who do not understand our poverty infer that we are indifferent to the needs of the public, or ignorant of the best methods of supplying them. Very many of our citizens — a majority of them — fail to realize how really valuable a collection of standard histories, biographies, and scientific works is at their service. Though a large proportion of books issued are of a lighter character, the real value of the library is in its standard works, and for these, by far the largest amount is spent each year.

May not a public library, properly used, be considered as much a means of public education as our common schools ? When these appeal to the city for additional funds, their requests become demands. They do not say " we want," but " we must have," and they are not refused.

From the national government we have just received the offer of several volumes of historical value, which we may have to

decline for want of means to bind the books, and room to store them when received.

The history of the library for the past ten years shows a great increase in its value and size, from 7,000 to 17,000 volumes. Yet the annual appropriation and the room for its accommodation remain much the same.

Most libraries of the size of this have buildings of their own, or funds for the purchase of books or payment of salaries, while we must depend almost entirely upon the generosity of the city.

Our only fund is a legacy of $1,000 left by Isaac Fay, of this city, which yields us $60 a year, and this is spent for valuable books. If some of our citizens would provide a book-fund or a building, the present amount of our appropriation might meet our requirements.

The statistics of library work for the year are as follows: —

Books Issued.

First quarter,	23,789	Average per day	314
Second quarter,	23,016	" "	299
Third quarter,	16,170	" "	213
Fourth quarter,	16,865 [1]	" "	250
Total . .	79,840	" "	269

The largest issue for any day, 628, March 1.

The issue for 1882 was	78,934
The issue for 1883 was	77,297

Books Added.

	By Purchase.	By Exchange.	By Gift.	Total.
First quarter	63	..	4	67
Second quarter	259	1	45	305
Third quarter	96	..	3	99
Fourth quarter	543	2	30	575
	961	3	82	1,046

The present number of books in the library is 17,030.

[1] Closed ten days for repairs.

List of Donors.

Hon. Leopold Morse . . .	65	Brought forward	71
Mr. John Ponce	1	City of Lawrence	1
Heirs of Dr. Ezra Parmenter	1	State of Massachusetts . . .	4
C. F. Adams	1	Cambridge Civil Service Reform Society	1
City of Cambridge	1	W. W. Kinsley	1
Cobden Club	1	United States	4
City of Worcester	1		
Carried forward	71	Total	82

Readers.

New subscribers	1,159
Names transferred from old lists	946
Present number of card-holders on new list	5,275
Number of books covered during the year	10,016
Number of books bound or repaired	3,464
Number of postals sent for books overdue	2,385

During the year 183 worn-out books have been replaced. Four books have been lost; in each case we found it impossible to trace the book to the delinquent, as he had borrowed another's card.

The income of the Fay legacy for 1883 was spent early this year for twenty-nine volumes.

Three copies of Paige's History of Cambridge have been exchanged for other town histories, leaving the number on hand 122.

The reading-room has been well filled nearly every evening, and is a valued department of the library.

Amount received for Fines and Catalogues.

First quarter.	Fines				$33.00
Second quarter.	"				37.38
Third quarter.	"	$30.53.	Catalogues,	$3.00	33.53
Fourth quarter.	"	27.40.	"	3.25	30.65
					$134.56

The City Treasurer's receipts for these amounts have been submitted with the quarterly reports.

In presenting our needs to the friends of the library, we cannot overestimate the want of more room and a better catalogue. Let us hope we may be heard for our importunity.

All of which is most respectfully submitted,

ALMIRA L. HAYWARD,

Librarian.

REPORT

OF THE

JOINT STANDING COMMITTEE ON PUBLIC PROPERTY.

ALTHOUGH this committee has to exhibit an increase of expenditure over the amounts given in the reports of the two or three years preceding, under some of the heads of appropriation, wholly or in part within its control, it is nevertheless a matter of considerable satisfaction to the committee that the work done by its direction has been well performed, and that much of it will not require to be repeated for several years to come. The necessity for an increased outlay became apparent at the beginning of the year, notwithstanding the fact that the committee of the year preceding believed that it had fully done its duty toward preventing the waste and decay of the public buildings. Many of these buildings being constructed of wood, more than a generation ago, are hastening to decay, and require constant supervision in order to maintain them in proper repair.

During the months of January and February the committee visited every school-house and city building, and made a thorough examination thereof with reference to sanitary arrangements and needed repairs. At the request of the committee a sanitary inspection of all city buildings was made by the Health Officer.

In accordance with the urgent recommendation of the Superintendent of Schools, seconded by the School Committee in the annual report of that Board for the year 1883, an appropriation was made by the City Council for a grammar school-house in Ward 2; and under the further authority of an order approved April 10, 1884, the structure was erected, under the direction of this committee, on the city land adjoining the

Gannett school-house lot at the corner of Columbia and Lincoln Streets.

Details of the expenditures by this committee and its predecessor, from Dec. 1, 1883, to Dec. 1, 1884, are given below.

Appropriations.

Fire Department, repairs on buildings and furnishings: —		
Engine-House No. 1	$305.48	
" " 2	769.64	
" " 3	785.80	
" " 4	584.69	
" " 5	63.65	
Hook and Ladder 2	53.11	
Chemical House 1	335.17	
		$2,897.54
Incidental expenses: —		
City Hall, care and repairs	$3,903.33	
City buildings, care and repairs	6,321.36	
Care of public clocks	209.50	
Bell-ringing	140.00	
Flag-staff, Ward 5	280.00	
Fitting up polling-places and room for registration of voters	582.13	
Old burial-ground, Ward 1	67.00	
Rent of ward-rooms	105.00	
Rifle-range, repairs of	55.00	
Water for drinking-fountains	500.00	
Hose for drinking-fountains	25.00	
Miscellaneous	194.45	
		12,383.27
Police, furniture, and repairs at stations		305.55
School-Houses (care and repairs): —		
Fuel	$7,290.46	
Janitors	9,690.44	
Repairs and supplies	17,256.33	
		34,237.23
School-Houses (new, and furniture): —		
Grammar school-house, Columbia Street	$17,017.33	
Furniture, sundry school-houses	976.26	
		17,993.59
Amount carried forward		$67,817.18

Amount brought forward	$67,817.18
Surrendered Estates (care and repairs)	26.00
	$67,843.18
Less item for fuel, bills for which are approved by fuel committee	7,290.46
	$60,552.72

The amount expended for fuel was included under the head of "care and repairs of school-houses," in order to show the total amount chargeable to that appropriation during the year. The contract for fuel is made by the Joint Standing Committee on Fuel, and all bills therefor are approved by the same committee.

Special mention of the various divisions of the work of this committee is hereinafter made.

City Buildings.

The cost of maintenance of the City Hall, exclusive of the item of fuel, was less than that of the preceding year.

The amount in 1883 was	$3,961.60
The amount in 1884 was	3,246.93
Reduction in 1884	$714.67

At the City Building, Brattle Square, the upper floors, including those of the Armory, were found to have settled to such an extent as to be in a dangerous condition. No repairs, or other attempt at renovation, had evidently been made upon the rooms in this story for several years, and their condition was such as to demand prompt attention. Other extraordinary expenses, such as for grading and paving around the building, and iron fence on the southeasterly side, were incurred, the whole amounting to upwards of $1,000. It is believed that the expenditure so made will save any further outlay in the same direction for the present, at least. A new floor was laid in the coat-room of the Armory in the City Building, Central Square, and other repairs were made, to the amount of about $400.

Fire Department.

After a due examination of the various engine-houses by the committee on Fire Department, at its request this committee took charge of repairs and improvements in all the houses, those chiefly needing attention being Engine-Houses Nos. 2 and 3, the latter being the worst arranged for the service of the Fire Department of any of the engine-houses either in this or any other city in the vicinity of Boston.

It seems almost absolutely necessary that a suitable building for Engine No. 3, with convenient access to the street, should be erected without delay.

School-Houses.

Mention has hereinbefore been made of the erection of a grammar school-house in Ward 2. A special appropriation for the same was included in the financial budget for the year 1884, and a subsequent order authorized the building to be located upon the city land at the corner of Columbia and Lincoln Streets. The lot selected adjoins the land occupied by the Gannett school-house, and was purchased for school purposes Jan. 11, 1875. It has a frontage on Columbia Street of $204\frac{7}{10}$ feet, and on Lincoln Street of 93 feet. Area, 18,870 square feet, all the sides not being equal.

It was ordered that the building should be of brick. Proposals for the same were issued in the month of April last, and on May 5 the contract was awarded to J. H. Coon & Co., masons and builders, of this city. They were the lowest of fifteen bidders, their contract being for the sum of $15,500.

The work called for under the contract was exclusive of the heating apparatus, the award for which was made to Moynahan & Co., of this city, their contract being for three No. 9 Chilson improved cone furnaces, which they agreed to furnish complete for the sum of $687. The building was completed and ready for occupancy September 15.

The total cost was as follows : —

Contractors for building	$15,450.07	
Contractors for furnaces	687.00	
Carpenter-work, extra	324.57	
Gas-piping	8.36	
Architect	500.00	
Advertising and printing	45.08	
		$17,015.08
Cost of land in 1875, without interest		9,435.00
Total cost, land and building		$26,450.08

The plan of the building was drawn by James Fogerty, architect, and the work thereon was done under his supervision. It was completed in a satisfactory manner, and is regarded as highly creditable to the builders.

The amount originally appropriated was: —

For school-houses (new, and furniture)	$17,000.00
Additional	304.34
Total	$17,304.34

The amount expended was: —

New school-house	$17,015.08
Furniture, various school-houses	976.26
Total	$17,991.34
Less	687.00
	$17,304.34

The sum of $687, deducted as above, represents the cost of the furnaces in the new school-house; but the same was erroneously charged to the appropriation for school-houses (care and repairs), and was provided for in the additional sum furnished to that appropriation. In making up the total cost of the new school-house, it should properly be charged under that head.

The appropriation for school-houses (care and repairs), in 1884, was as follows: —

Amount originally appropriated	$30,000.00
Additional appropriation	4,926.48
Total	$34,926.48

Amount expended	$34,239.48
Furnaces for new school-house, charged erroneously to this appropriation	687.00
	$34,926.48

The large increase in the cost of maintenance of the school-houses over that of preceding years was the natural result following the continued postponement of needed repairs year after year, until in some instances it became almost necessary to rebuild in order to render a house wholly fit for its uses.

The Gannett school-house, which it was thought might be removed to some point east of Cambridge Street near the line of Ward 3, was allowed to remain in its present location, for the present, inasmuch as the building would require a larger outlay in fitting up than its condition would justify. It was thought that, from an economical point of view, it would be better to sell the building, to be removed from the land it occupies, and when the proper time therefor shall arrive to erect a suitable school-house in the locality where it may be needed.

A classification has been attempted of the various expenditures chargeable to the appropriation for school-houses (care and repairs), the same being put in comparison with the same items in the account for the preceding year.

Expenditures.

	1884.	1883.
Blackboards	$323.33	$442.14
Fuel	7,290.46	8,143.87
Furniture and repairs	930.57	1,078.22
Gas	110.73	198.97
Gravel, grading, and paving	144.50	356.83
Hardware and tools	473.39	215.53
Heating apparatus and repairs	2,915.75	1,866.53
Janitors	9,660.44	8,586.50
Rent of school-rooms		183.46
Repairs of buildings and fences, and lumber	10,306.26	6,341.26
Supplies, miscellaneous	1,090.40	320.15
Sundry expenses	134.50	227.61
Water	859.15	626.37
	$34,239.48	$28,587.44

The expenditure for repairs and supplies in all the school-houses, exclusive of the items for fuel, gas, and water, was $16,318.70.

This amount was distributed in the several wards, as nearly as can be ascertained, as follows : —

Ward 1	$3,168.45
" 2	3,598.22
" 3	3,982.40
" 4	2,704.84
" 5	2,470.13
Unclassified	394.66
	$16,318.70

Although your committee was well aware of the necessity existing for a considerable outlay upon the various school-houses, an examination of the buildings showed that a much larger expenditure thereon was required than had been anticipated. While it is impossible in a necessarily brief report to give details of all improvements made, it may be said that many of the buildings were wholly destitute of paint upon the outside, and presented a shabby and discreditable appearance, while the woodwork was suffering from long-continued neglect in the particular referred to. Several of the roofs were reslated, and extensive internal repairing and renovation was made. In Ward 3, where a larger sum was expended than in the other wards, many school-buildings required extensive repairs to maintain them for school uses. The Putnam and Gore school-houses received especial attention, the latter requiring an expenditure of about $1,000 for improvements in its heating apparatus.

A large outlay was also made in fitting up rooms in the City Building, Central Square, for the storage of text-books, under the recent law of the Commonwealth, and for the use of the agent in charge of these books.

It is obviously impossible to forecast the work of another year, yet your committee confidently believes that it has so far attended to necessary repairs upon the several school-houses during the past year as to obviate the need of any considerable outlay in that direction during the year to come.

Public Lands.

About 105,000 feet of these lands, included in the almshouse property and situated in the city of Somerville, have been sold during the year by a joint special committee having charge of such sale. An area of about 10,000 square feet of the land on Auburn and Pilgrim Streets has been leased to the Cambridge Water Works for storage purposes, in addition to the land heretofore granted for such purpose. The remaining lands are in charge of this committee, and are referred to elsewhere in this report.

Surrendered Estates.

The joint special committee above mentioned has disposed of much of this property by auction and private sale, and the area of land included under the above head is now very much reduced. There was a small amount received as income on the account of these estates, a statement of which may be found in the annual report of the Auditor of Accounts.

Mill-Pond Property.

Two building lots have been sold from this estate, the same fronting on Putnam Avenue. Complaints continue to be made by the citizens in the neighborhood of the old mill-pond basin, of the disagreeable odor arising therefrom. The ashes and other rubbish collected in the vicinity have been deposited about the edges of the basin, and, as far as possible, endeavors have been made to fill the land. This property has never been offered for sale, but under direction of the City Council a plan thereof has been made by the City Engineer, showing a proposed allotment of the land, with streets extending through it. In order to carry out the purpose of this plan, it will, however, be necessary to make some arrangement with owners of adjoining lands, with reference to the proposed streets, and to making their lots conform in other respects to said plan.

Tax-Title Lands.

None of these have been disposed of during the past year. Some are of especial value for business purposes, and some inquiry has been made concerning them, which will doubtless soon lead to their sale.

Janitors.

Some change has been made in the distribution of the work of these public servants, and, owing to the erection of a new school-house, an increase of their number has been required.

As far as possible, in the cases of school-house janitors, they are now required to be in the buildings respectively under their charge during the hours in which school is in session.

It is believed by this committee that the present corps of janitors is efficient and faithful in the performance of every duty required of them.

THE FOLLOWING IS A SCHEDULE OF PROPERTY

Owned by the city at the close of the year 1884, all of which is under the charge of this committee, except such as is specially noted: —

Almshouse Building.

Foot of Tannery Street, Ward 5, with $14\frac{242}{1000}$ acres of land in Cambridge, $15\frac{376}{1000}$ acres of land in Somerville, and $\frac{1}{10}$ acre in Arlington. Total area, $29\frac{3}{4}$ acres. Also stone ledge located on Almshouse land. (In charge of Board of Overseers of the Poor.) N.B. — A part of this land, situated in Somerville, is for sale, and is mentioned elsewhere in this schedule, under *City Lands* (*Salable*).

Cemeteries.

Cambridge Cemetery. Foot of Coolidge Avenue, containing $40\frac{8129}{10000}$ acres of land. (In charge of Board of Commissioners of Cambridge Cemetery. Included in their report.)

Burial-Ground. Garden Street, junction of North Avenue, containing 85,858 square feet of land.

City Buildings.

Ward 1 *Building*, Brattle Square, and land, 16,153 square feet.

Central Square Building, junction Western Avenue and Green Street, and 13,028 square feet of land.

City Hall, Main Street, corner Pleasant Street, and 10,181 square feet of land.

City Stables, Norfolk, Hampshire, and Tremont Streets, and 72,661 square feet of land. (In charge of Committee on Roads and Bridges.)

Police Station, Norfolk Street, on City Stable lot.

City Lands (Salable).

Lot on Franklin and Auburn Streets, containing 33,835$\frac{2}{10}$ square feet.

Lot on Auburn, Pilgrim, and Sidney Streets, containing 76,101$\frac{7}{10}$ square feet, with house and shed thereon owned by Water Works. [A portion of this land, containing about 25,000 square feet, is leased to the Cambridge Water Works, and another portion, of about 15,000 square feet, is used by the Sewer Department.]

Lot on Brookline Street, corner of Pilgrim Street, containing 5,549$\frac{7}{10}$ square feet.

Lot on Sidney Street, east side, near Auburn Street, containing 18,207$\frac{3}{10}$ square feet.

Lot on Cambridge, corner Portland Street, containing 111,697 square feet.

Land in rear of Broadway, West Somerville, part of Cambridge Almshouse land, being lots 51, 54, 56, 57, 60, 67, 68, 69, 70 to 76 inclusive, 83 to 92 inclusive, 99 to 108 inclusive, 117 to 124 inclusive, on the city plan of Almshouse Building Lots, containing in all about 215,000 square feet (also included in the area of Almshouse lands).

City Flats.

Flats, opposite City Wharf, Main Street, south side, opposite junction with Harvard Street; in all, 162,379 square feet.

Commons and Public Squares.

Cambridge Common. Garden Street, North Avenue, and Waterhouse Street. Area, 370,785 square feet.

Public Square. Between Waterhouse Street and North Avenue. Area, 13,180$\frac{7}{10}$ square feet.

Arsenal Square. Garden and Chauncy Streets and Concord Avenue. Area, 3,189 square feet.

Public Square. Between Waterhouse Street and Garden Street. Contents, 363 square feet.

Public Square. Between Holmes Place and Cambridge Street. Contents, 20,956 square feet.

Public Square. North Avenue, corner of Kirkland Street, on south corner. Contents, 23,074 square feet.

Public Square. North Avenue, corner of Kirkland Street, on north corner. Contents, 33,357 square feet.

Public Enclosure. Junction of Arrow and Main Streets, containing 872 square feet.

Broadway Park. Broadway, corner of Norfolk Street. Contents, 107,181 square feet.

Fort Washington. Waverly Street. Contents, 42,123 square feet.

Common. Junction of Pleasant and River Streets. Contents, 1,569 square feet.

Hastings Square. Brookline, Chestnut, and Henry Streets. Area, 29,999 square feet.

Dana Square. Lake, Magazine, Lawrence, and Niagara Streets. Area, 33,531 square feet.

Winthrop Square. Boylston, Winthrop, and Mount Auburn Streets. Area, 10,236 square feet.

Tudor Park. Between Fresh Pond drive and Watertown Branch Railroad, containing $53{,}032\frac{2}{10}$ square feet.

Engine-Houses.

House No. 1, Eliot Square, corner Mount Auburn Street, included with Ward 1 Building.

House No. 2, Main Street, near Winsor, and land, 3,150 square feet.

House No. 3, Gore and Fourth Streets, and land, 4,220 square feet.

House No. 4, North Avenue, near corner Russell Street, and land, 6,315 square feet.

House No. 5, Hampshire Street, corner Inman, and land, 6,000 square feet.

House, Hook-and-Ladder No. 2, Cambridge Street, corner of Portland ; land included in city lands.

Gravel Pits.

Gravel Pit, in rear of Concord Avenue, southerly side, near Adams Street, containing 397,417$\frac{7}{10}$ square feet. (In charge of Committee on Roads and Bridges.)

Gravel Pit, on Gay Estate, rear of Adams Street, near Concord Avenue, containing 23,076$\frac{5}{10}$ square feet. The gravel only is owned by the city. (In charge of Committee on Roads and Bridges.)

Gravel Pit, in Watertown, containing 109,464$\frac{9}{10}$ square feet. (In charge of Committee on Roads and Bridges.) The gravel only is owned by the city.

Mill-Pond Property.

Old Mill-site and Basins. River Street, near Brighton Bridge, and upper and lower basins on River Street, Putnam and Western Avenues, comprising an area of 312,490 square feet, or about 7$\frac{18}{100}$ acres.

School-Houses.

Allston, Boardman Street, 15,193 feet of land.

Agassiz, Oxford Street, corner Sacramento Street, 19,689 feet of land.

Boardman, Winsor Street, corner School Street, 10,018 feet of land.

Bridge, Pioneer Street, Lower Port, 4,646 feet of land.

Corlett, Holworthy Street, and 10,000 feet of land.

Cushing, Cushing Street, nearly opposite Locust Street, 14,788 feet of land.

Dunster, Concord Avenue, near Sparks Street, and 10,000 feet of land.

Dana, Centre Street, and 14,317 feet of land.

Felton, Amory Street, corner Summer Street, and 15,090 feet of land.

Gore, Gore Street, between Third and Fourth Streets, and 9,900 feet of land.

Gannett, Columbia Street, between Lincoln and Cambridge Streets, and 8,802$\frac{7}{10}$ feet of land.

Harvard (Grammar), Broadway, corner Inman Street, and 20,494 feet of land.

High School, Fayette Street, Antrim Street, and Broadway, and 37,828 feet of land.

Holmes, Hilliard Street, and 11,182 feet of land.

Lassell, Charles Street, near Sixth, and 10,000 square feet of land.

Lowell, Lowell Street, near Mount Auburn Street, and 12,033 square feet of land.

Mason, Front Street, corner Jennings Street, and 10,000 feet of land.

Otis, Otis Street, between Fifth and Sixth Streets, and 8,270 feet of land.

Putnam, Otis Street, corner Fourth Street, and 10,000 feet of land.

Quincy, Mason Street, corner James Street, and 8,469$\frac{3}{10}$ feet of land.

Reed, Reed Street, Ward 5, and 12,000 feet of land.

Riverside, Putnam Avenue, Ward 1, and 11,198 feet of land.

Sargent, Broadway, corner Winsor Street, and 9,995 feet of land.

Shepard, North Avenue, near Russell Street, and 14,755 feet of land.

Stearns (Primary), Harvard Street, near Prospect Street, and 10,050 feet of land.

Tarbell, Grigg, Howard, and Magee Streets, and 19,500 feet of land.

Thorndike, Thorndike Street, corner Sixth Street, and 10,027 feet of land.

Washington, Brattle Street, corner Farwell Place, and 14,951$\frac{1}{2}$ feet of land.

Webster, Upton Street, and 25,839 feet of land.

Wellington, Columbia, corner of Lincoln Street, and 18,870 feet of land.

Willard, Lake, Lawrence, and Niagara Streets, and 20,079 feet of land.

Wyman, Spruce Street, corner Groveland Street, and 14,346$\frac{8}{10}$ feet of land.

Surrendered Estates.

These estates were surrendered to the city under the provisions of the statutes relating to low land filling.

This list gives by whom surrendered, and location of property.

CAMBRIDGE STREET DISTRICT.

Nourse, Susan M. Porter and Jefferson Streets. Lot of land, 7,756 feet, Porter Street; lot of land, 11,202 feet, Porter and Jefferson Streets.

Rafferty, B. Cambridge and Jefferson Streets. Old building, and 24,934 feet of land.

COWPERTHWAITE STREET DISTRICT.

Crane, Ann, Heirs of. Grant Street and De Wolf Street. Lot of land containing 12,353 feet.

WASHINGTON STREET DISTRICT, SOUTH DOCK, AND SOUTH CANAL.

Bent Heirs. Dock and Sixth Streets. West lot containing 5,959 feet; rear lot containing 32,060 feet.

Hunt, Fanny E. Harvard Street, north side, easterly of the estate of Bridget Manning; lot containing 6,966 feet.

FRANKLIN STREET DISTRICT.

Johnston, Thomas A. Green Street. Lot of land, 4,860$\frac{1}{2}$ feet.

Murdock, Read, and Thresher Lands. Lots as per City Plan No. 1: on Franklin Street, corner of Hancock, lot 1 containing 1,333$\frac{2}{10}$ square feet; on Kinnaird Street, lots 17 and 18, containing 6,910$\frac{6}{10}$ square feet; on Kinnaird and Howard Streets, lot 19 containing 4,835 square feet; on Jay Street, lots 23, 25, 27, 29, 31, 33, 35, and 37, containing 25,600 square feet; on Howard Street, lots 20, 21, 22, 24, 26, 28, 30, and 32, containing 25,600 square feet. Total, 64,278$\frac{8}{10}$ square feet.

Murdock, Read, and Thresher Lands. Lots as per City Plan No. 2: on Hayes Street, east side, lots 44 to 48 inclusive, containing 15,095 square feet; on Hayes Street, west side, lots 29

to 35 inclusive, containing 18,995 square feet; on Magee Street, east side, lots 20 to 26 inclusive, containing 19,100$\frac{2}{10}$ square feet. Total, 53,190$\frac{2}{10}$ square feet.

TAX–TITLE ESTATES (SALABLE).

The following-described estates were conveyed to the city by persons who had purchased them at auction sales by the Collector of Taxes, and the city has taken legal possession of the same.

Lot on Broadway, west corner of Sixth Street, containing 17,517 feet.

Lot on Second Street, east of Conlan's Court, containing 26,400 feet.

Lot on Hunting Street, west side, adjoining land late of Melley, containing 2,709 feet.

Lot on Spruce Street, near railroad, adjoining land of McSweeney; area, undetermined.

Land on Walden Street, southeast of land of Darling, southwest of land formerly of Saunders; area, 16,365 square feet.

WHARVES AND LANDINGS.

Public Landing, foot of Bath Street; area, unknown. *Gerry's Landing*, so called, south of Mount Auburn Street; area, unknown. Each has a frontage of 30 feet on the river.

City Wharf, Main Street, opposite Harvard Street, 13,680 feet.

WATER WORKS PROPERTY.

Old Engine-House Lot, foot of Lake View Avenue, about 33,568 feet of land.

New Engine-House, opposite foot of Lexington Avenue, and 90,414 feet of land.

Fresh Pond, lands bordering on; area, unknown.

Little Pond, lands bordering on; area, unknown.

Reservoir, Reservoir Street, corner High Street, and 86,920 feet of land. All the Water Works property is in charge of the Cambridge Water Board.

Recapitulation of Areas.

Kind of Property.	Square feet.	Acres.
Almshouse lands, about	1,294,516	29.718
Cambridge Cemetery	1,778,511.24	40.829
Burial-ground, Ward 1	85,858	
Occupied by City Buildings	112,023	
Salable City Lands	245,090.9	
City Flats	162,379	3.73
Commons and Public Squares	743,447.9	17.069
Occupied by Engine-houses	19,685	
Gravel-pit on Concord Avenue	397,417.7	9.125
" rear of Adams Street	23,076.5	
" in Watertown	109,464.9	2.51
Mill-Pond Lands, about	312,490	
Occupied by School-houses	442,331.5	
Surrendered estates, lands: —		
Cambridge Street District (Square feet. 43,352)		
Cowperthwaite Street District (12,353)		
Washington Street District (44,985)		
Franklin Street District (122,329.5)		
Total in all the districts	223,019.5	
Tax-Title Estates, four estates	62,991	
Occupied by Water Works at Fresh Pond	210,902	
City Wharf Land	13,680	
Total about	6,236,884.34	143.179

Schedule.

Of salable city lands, surrendered estates, and tax-title lands, included elsewhere in this report, with their appraisal: —

Lot on Franklin and Auburn Streets, $33,835\frac{2}{10}$ feet	$5,458.75
Lot on Auburn, Pilgrim, and Sidney Streets, $76,101\frac{7}{10}$ feet	15,220.34
Lot on Brookline, corner of Pilgrim Street, $5,549\frac{7}{10}$ feet	1,387.42
Lot on Sidney Street, east side, near Auburn Street, $18,207\frac{3}{10}$ feet	2,731.09
Lot on Cambridge, corner Portland Street, 111,697 feet	39,093.95
Amount carried forward	$66,891.55

Amount brought forward	$66,891.55
Flats opposite City Wharf, Lower Port, 162,379 feet	8,118.90
Mill-Pond Property	15,000.00
Total city lands as appraised	$90,010.45
Total surrendered estates	39,207.90
Total tax-title lands, about	10,000.00
	$139,218.35

Salable Almshouse lands, about 215,000 feet, unappraised.

The following is an appraisal of the various city property hereinbefore mentioned, the sums set against the respective items being based upon valuations made within the past five years. Inasmuch as the figures given are, in several instances, far below the Assessors' valuation of neighboring estates, it is believed that this statement is rather an underestimate of the real value of the property than otherwise.

Schedule.

City Buildings, Land and Furniture	$260,347.50
School-houses, Land and Furniture	644,316.90
Salable City Land	90,010.45
Surrendered Estates	39,207.90
Almshouse and Land	45,000.00
Wharf at Lower Port	7,000.00
Gravel-pit in Cambridge (old)	4,000.00
Gravel-pit in Cambridge, taken from Gay Estate	1,661.40
Tax-title Lands, about	10,000.00
Personal property used in connection with Public Squares, including trees on hand, about	500.00
Total	$1,102,044.15

Respectfully submitted,

GEO. W. GALE,
SAMUEL W. McDANIEL,
JAMES E. DOYLE,
TIMOTHY McCARTHY,
ELBRIDGE G. STEVENS,
Committee on Public Property.

REPORT

OF THE

COMMITTEE ON SOLDIERS' AID.

THE Committee on Soldiers' Aid submits to the City Council its report for the year ending Nov. 30, 1884: —

The amount paid as regular State aid was	$10,663.00
The amount paid to indigent soldiers and sailors was . . .	2,545.00
The amount paid to the agent employed in the examination of settlements, etc., was	242.50
Total	$13,450.50

The amount received from the Commonwealth was . . .	$11,958.50
The amount received from other towns and cities	148.00
	$12,106.50

There are now upon the State-aid list 197 persons, and upon the list of indigent soldiers and sailors 34.

All of which is respectfully submitted,

P. ALLEN LINDSEY,
WM. E. RUSSELL,
ALPHEUS B. ALGER,
JOSEPH COGAN,
M. E. RIDEOUT,

Committee on Soldiers' Aid.

REPORT

OF THE

CEMETERY COMMISSIONERS.

To the Honorable the City Council of the City of Cambridge:—

THE Commissioners of the Cambridge Cemetery respectfully submit their thirty-first annual report, the same being for the financial year ending Nov. 30, 1884.

The amount of appropriation at the beginning of the year was	$12,000.00
Additional appropriation	2,312.85
The total amount of expenses was	$14,312.85

For a detailed account of expenses, reference is made to the Auditor's report.

By the report of the Commissioners for the year 1883, it appears that the amount of expenses for that year was	$15,908.73
Deducting from this the amount of expenses as above	14,312.85
Shows a reduction in the expenses of the present year of	$1,595.88

The receipts for the year have been as follows:—

For Care of lots, etc.	$4,916.72
Burial fees	2,095.50
Wood	7.50
Hay	53.50
Sundries (old iron, etc.)	7.50
Burial lots	5,453.05
Total amount of receipts	$12,533.77

The report of this Board for last year shows that the receipts for the care of lots were	$2,489.29
The receipts from the same source during the present year have been	4,916.72
Showing an increase of	$2,427.43
While the revenue from the sale of Burial Lots has fallen from $6,212.35 in 1883, to $5,453.05 in 1884, showing a reduction of revenue from this source of	$759.30

The whole number of interments during the year has been	546
" " interments in the cemetery	13,606
" " lots prepared during the year . . .	32
Estimated value of such lots	$10,400.00
Number of lots now ready for sale	91
Estimated value of the same	$24,187.00
Amount received for perpetual care of lots, in 1884 . . .	$1,000.00
Amount of fund for perpetual care of lots	$6,250.00

There have been 1,500 feet of water-pipe laid during the past season; the labor of digging and filling the trench for the same being performed by the laborers at the cemetery. This extension distributes the water through the entire western part of the cemetery.

Two thousand and sixty-seven square feet of gutters have been paved, and many avenues and paths have been improved by regrading.

In accordance with the recommendation of the Commissioners in their last annual report, a Joint Special Committee was appointed by the City Council to confer with this Board in the matter of the enlargement of the cemetery.

Several conferences were held, and the committee reported to the City Council recommending the purchase of the Winchester Estate, situated in the town of Watertown, adjoining the cemetery, provided permission could be obtained from the town of Watertown to use the same for burial purposes. This estate contains $18\frac{4}{10}$ acres of high land, well covered with ornamental trees, and is admirably adapted for the purposes of a cemetery.

The indications now are that the pressing necessity for more land is about to be met.

JAMES A. FOX,
GEO. S. SAUNDERS,
CURTIS DAVIS,
SILAS B. BUCK,
SAMUEL W. McDANIEL,
GEO. T. GALE,
JOHN F. O'BRIEN,

Commissioners of the Cambridge Cemetery.

REPORT

OF

THE CITY ENGINEER.

OFFICE OF THE CITY ENGINEER, CITY HALL,
CAMBRIDGE, Dec. 22, 1884.

To the Honorable the City Council: —

GENTLEMEN, — The City Engineer herewith presents a report of the operations and expenses of the departments of Engineering and Sewers for the year ending Nov. 30, 1884: —

Streets.

In my report of last year I recommended the construction of a bulkhead on the southerly side of Mt. Auburn Street, from the Casino Grounds in a westerly direction, of about one thousand feet. The total estimated cost of this work was $5,000. No appropriation was made, a temporary fence being placed in the centre of the sidewalk for the protection of foot passengers. This is a very much-needed improvement, and should receive early attention.

The work of paving Main Street was commenced late in the season, and about 1,663 square yards of granite blocks were laid. The railroad company has raised its tracks to the established grade, and the work, so far as completed, has been done in a very acceptable manner. It is desirable that this work should be carried forward early in the spring, and a liberal appropriation should be made for this purpose. Streets have been laid out and accepted, as shown in the following table: —

Street.					Plan.		
Name.	From	To	Length in feet.	Width in feet.	Date.	Made by	Accepted.
Albany Street	Main Street	Osborn Street	1,144.25	50	Nov. 25, 1884	William A. Mason & Son	Oct. 30, 1884.
Henry Street	Sidney Street	Waverly Street	380.00	40	July 9, 1884	Arthur Hodges	Oct. 30, 1884.
Holyoke Street	South Street	Mill Street	114.00	20±	April 12, 1882	City Engineer	Oct. 2, 1884.
Lowell Street	Brattle Street	Mt. Auburn Street	877.10	40	July 25, 1884	City Engineer	Nov. 13, 1884.
Ninth Street	Otis Street	Spring Street	456.70	50	Dec. 1883	C. D. Elliott	May 29, 1884.
Spring Street	Sixth Street	Ninth Street	533.54	50	Dec. 1883	C. D. Elliott	May 29, 1884.
Sidney Street	Chestnut Street	Henry Street	267.36	40	July 9, 1884	Arthur Hodges	Oct. 30, 1884.

Mill Pond.

Filling the Mill Pond has continued. The whole surface has been covered to a slight depth, but still many complaints have been made in relation to the foul odors arising therefrom. It is very desirable that the work of filling should be pushed as rapidly as possible to completion; also that means should be taken to secure the laying out of the territory, including contiguous lands, according to the plan adopted by the City Government, Feb. 7, 1883. This plan, in the projection of streets, affects other property than that belonging to the city; and these streets should be laid out at once, before the land is otherwise occupied, as is now proposed by some of the owners of adjoining estates, who are willing and anxious to have the city plan carried out, but cannot sell their lands until this is done. Early action in this matter is recommended.

Bridges.

As recommended in my last report, the draws and hanging and hauling piers of River Street, Western Avenue, and Cambridge Great bridges have been thoroughly rebuilt in part and repaired; the pier of Western Avenue bridge has been extended 60 feet in length, a license from the Harbor Commissioners having been granted for this purpose. All of these bridges were in a far worse condition than had been supposed, and required a much larger expenditure than had been estimated. The total cost of this work was $10,994.73. It was done by the day, by Messrs. John P. Perkins & Son, under the direction of the City Engineer and Superintendent of Streets. These bridges and all the other bridges (except the Third Street bridge, which will probably have to be rebuilt) are in good condition, and will require only the ordinary repairs.

Bridge over Alewife Brook.

The bridge over Alewife Brook, on North Avenue, has been widened to the full width of the avenue, in connection with the town of Arlington, the work being done by our city; the expense was paid one half by the city and one half by the town. The avenue has been graded to correspond, and now presents a fine appearance.

Proposed New Bridge.

Early in the season a committee was appointed to take charge of matters relating to the proposed new bridge, from West Chester Park in Boston to Front Street (extended) in Cambridge. The sum of $1,000 was appropriated by the City of Cambridge, and a like amount by the city of Boston, to be used by the city engineers of the two cities in making borings, examinations, plans, and estimates, — the instructions given by the joint committees being to prepare plans and estimates for a bridge 70 feet wide with a 50 feet draw, also for one 80 feet wide with a 70 feet draw, and one 100 feet wide with an 80 feet draw. Borings were commenced in the latter part of August, and continued to the latter part of November, the work being done under the direction of the City Engineer of Boston ; the total cost was $1,369.90, one half being paid by each city. On further consultation of the engineers it was thought desirable for each engineer to submit a plan and estimates, for comparison and selection by the joint committee. A design has been prepared by the City Engineer of Cambridge, and estimates made for the different widths proposed, which are as follows: For 70 feet with 50 feet draw, $416,000; for 80 feet with 70 feet draw, $475,428; for 100 feet with 80 feet draw, $594,285. The general design is a high level-deck bridge. The grade is reached by short plate girder-spans, with a rise in the bridge of $3\frac{1}{3}$ feet per hundred until the high level is reached, then alternating with long and short spans, on the cantilever plan. The total length of the bridge will be about 1,955 feet, including 200 feet of pile bridge on the Boston end. A similar design was presented by the City Engineer of Boston, whose estimate corresponded so nearly with my own that we agreed that either bridge could be built within the estimate previously named. The joint committee met, accepted the report of the engineers, and voted to recommend the plans to the favorable consideration of the next city governments.

Sewers.

There have been constructed the present year $2\frac{73}{1000}$ miles, making a total of $69\frac{349}{1000}$ miles of sewers in the city. The work done the present year is given in detail in the following table : —

Sewers Constructed between Dec. 7, 1883, and Dec. 1, 1884.

Location.			Construction.						Total Cost.
Street.	From	To	Built by	Material.	Size in Inches.	Man-holes.	In-lets.	Length in Feet.	
Auburn	Sidney Street	Near Brookline Street	City Engineer	Akron pipe	12	1	36	473.10	$463.88
Acorn	Chestnut Street	Near Putnam Avenue	" "	" "	10	1	17	279.70	324.26
Boylston	South Street	Near Winthrop Street	" "	" "	12	2	19	289.75	396.68
Brattle	Willard Street	Easterly	" "	" "	10	1	7	131.00	142.04
Brattle	Story Street	Westerly	" "	" "	10	..	10	155.50	152.19
Bay	Green Street	Northerly	" "	" "	10	..	9	160.60	147.05
Cambridge	Ninth Street	Seventh Street	" "	" "	12	2	22	364.95	578.99
Concord Avenue	Craigie Street	Westerly	" "	" "	12	2	16	277.55	325.80
Craigie	End of old sewer.	Berkeley Street	" "	Portland stone-ware	15	1	10	176.78	217.24
Concord Avenue	End of old sewer.	Bond Street	" "	Akron pipe	12	1	18	297.20	416.54
Crescent Avenue. *See* Raymond Street.									
Dyke	Charles River	Westerly	" "	" "	10	..	14	192.20	207.39
Dodge	Western Avenue	Near Grigg Street	" "	" "	10	..	12	234.40	160.46
Garfield	Oxford Street	North Avenue	" "	" "	12 and 10	4	54	930.51	966.23
Granite	Pearl Street	Westerly	" "	" "	10	..	9	156.40	135.70
Hancock	Broadway	Southerly	" "	" "	10	..	6	149.80	142.38
[1] Holworthy Street and Place	Old culvert	Watertown Branch R. R.	" "	" "	12	..	3	425.90	400.09
Henry	Pearl Street	Hastings Square	" "	" "	12 and 10	1	33	466.70	576.22
Locke	Meacham	Westerly	" "	" "	10	..	7	176.85	122.50
Lambert Avenue	End of old sewer.	Westerly	" "	" "	10	..	6	85.60	94.63
Lee	End of old sewer.	Towards Main Street	" "	" "	8	1	5	43.00	70.92
Munroe	Third Street	Westerly	" "	" "	12	1	25	346.54	410.39
Otis	Ninth Street	Westerly	" "	" "	10	..	11	172.90	128.71
Portland	Hastings Street	Northerly	" "	" "	10	..	6	98.80	84.85
Prospect	End of old sewer.	Southerly, to near Main St.	" "	" "	12	1	9	83.90	121.75
Putnam Avenue	Pleasant Street	Easterly	" "	" "	12 and 10	1	15	266.70	360.51
Prentiss Place	End of old sewer.	Westerly	" "	" "	8	..	5	69.50	52.02
Russell	North Avenue	Somerville Line	" "	" "	10	1	14	299.00	272.18
Reservoir	End of old sewer.	Northerly	" "	" "	10	..	10	169.31	205.39
Raymond Street and Crescent Avenue	Railroad	Crescent Av. and Walden St.	" "	Brick and Portland pipe	15 and 12 pipe 24 x 30 brick	4	54	1,483.60	3,232.15
[2] Somerset St., Magazine and Walnut Cts.	Pleasant Street	Walnut Court, and in Walnut and Magazine Courts	" "	Brick and Akron pipe	10 and 8 pipe 24 x 30 brick	2	..	922.00	2,937.52
Sixth	Charles Street	Southerly	" "	Akron pipe	10	..	4	123.40	113.08
School	Harrison Street	Easterly, near Portland St.	" "	" "	10	1	18	197.75	259.31
Tenney, Orchard, and private lands	Hadley Street	Somerville Line	" "	" "	10	2	25	442.00	350.29
Tremont	End of old sewer.	Southerly, near Hampshire St.	" "	" "	10	1	20	251.30	327.92
Vine	End of old sewer.	Easterly, towards Fifth St.	" "	" "	10	..	10	111.40	106.96
Wallace	End of old sewer.	Westerly, towards Shepard St.	" "	" "	10	..	5	50.00	53.00
Mercer	Sparks Street	Near Brattle Street	Private parties	" "	12 and 10	3	18	389.13	.....
						34	562	10,944.72	$15,057.22

[1] For surface water only.

[2] Portion of this charged to Sewers, maintenance.

The sewers in Raymond Street and Crescent Avenue, recommended in my last report, have been constructed. Hubbard Avenue not being reached, petitions have been presented for this and Mead Street; and these sewers, together with Cogswell Place and Walden Street, should be built early the coming year.

The outlet of the Charles Street sewer is being filled around by the owners of the flats on which it now discharges, and will soon be cut off. This outlet will have to be changed at a very considerable cost the coming season. It can be accomplished by an extension of the First Street sewer to Charles Street, or to Vine Street, and through Vine and Second Streets to Charles. The whole of the sewers in Charles, part of Sixth, in Second, and part of Spring Streets, should be rebuilt, they having settled, and being so filled with sediment, which, on account of the irregular grades, it is impossible to remove, that they are almost useless.

Bridge Street Outlet.

This outlet and adjoining flats have again been cleaned in the same manner as last year, the cost being $3,086.47, five-ninths of it paid by the city of Somerville. The 6-inch water-pipe was extended under the bridge, terminating there with a double nozzle, to which two lines of hose can be attached, for washing-out purposes, — obtaining a much better pressure in this manner, and avoiding the necessity of long lines of hose laid on the sidewalk; 6,704 cubic yards of material were dredged out and taken down below Boston Light in scows and there dumped.

Remington Street Sewer.

This crosses Main Street and private lands to Mt. Auburn Street. On these private lands houses have been constructed, portions of them over the sewer. Complaint has been made of the escape of gases from this sewer into the cellar of a house which is in part built over it. As the sewer is a small one, and poorly constructed, it is recommended to cut it off and turn it down through Arrow and Bow Streets to the Oxford Street sewer, at the foot of Bow Street.

Alewife Brook.

There have been no complaints of importance during the present year, and but little work has been done in cleaning it. The gate-chamber at Broadway in Somerville has been rebuilt in a thorough and substantial manner, with concrete foundations and brick superstructure, with a brick gate-house over the whole. The adjoining land has recently been purchased for a Catholic cemetery, and has been graded and fenced in. It is now expected that the place will be better protected, and be less liable to the depredations of those disposed to do mischief. The total cost of this work was about $1,700.

Other Sewers.

The old sewers in Magazine and Walnut Courts, which cross private lands to Pleasant Street, have been rebuilt in part, and the portion crossing private lands has been cut off and a new connection made with the Pleasant Street sewer, by constructing a 24 × 30 inch brick sewer through Somerset Street and Walnut Court, there intersecting with the portion rebuilt in Magazine Court, which was placed on a pile and platform foundation. A large amount of ground-water was encountered in this work, as well as the sewage from the old system, which had to be pumped over during the reconstruction.

A portion of the sewer in Washington Street, easterly from Brewery to near Main Street, having caved in, has been rebuilt.

A portion of the sewer in Boylston Street southwesterly from Eliot has also been rebuilt.

The Murray Street outlet, carried away by the ice, has been rebuilt in a substantial manner.

A very considerable amount of flushing sewers and filling catch-basins with water has been required the past year.

The sewers are generally in good condition (except those specially mentioned) and in working order. A number of new man-holes have been constructed in the old sewers, and a large amount of small repairing has been done, involving a somewhat larger expenditure in sewer maintenance than had been estimated for; while the amount expended in construction was somewhat less. An adjustment was made by transfer to meet, in part, the deficiency in maintenance.

Belmont District.

Much complaint has been made in this district, principally by owners of low-lying lands, which are flooded by heavy rains and melting snows, not quickly removed by the present outlet, an old water-way through Mount Auburn, which has been walled in and made into a covered drain. It is supposed that this is either too small or has become filled up, and no entreaties have had any effect to cause the Corporation to do anything to give relief. In July last an order was adopted requesting the City Engineer to prepare plans for and estimates of the cost of a system for this section, which embraces a drainage area of some 143 acres. Two plans have been prepared, with estimates of the probable cost; but, as I said in my last report on this matter, neither plan is urged, as there are objections to each.

The first is shown on plan marked A, with discharge at Gerry's Landing; the estimated cost of this system is $35,000. The other plan is marked B, with the discharge into the marginal sewer around a portion of Fresh Pond, with outlet in Alewife Brook; estimated cost of this system, $32,000.

The appropriation for sewers, construction	$20,000.00
Expended for sewers, construction	16,644.77
Balance transferred to maintenance	$3,355.23
Appropriation for sewers, maintenance	$12,000.00
" " " transfer from construction . . .	3,355.23
" " " to cover deficiency	1,864.93
	$17,220.16
Expended for sewers, maintenance	$17,220.16

Water Works.

An Act was obtained from the Legislature of 1884, granting to the city of Cambridge the right to take water from Stony Brook and its tributaries, for domestic and other purposes. This Act was accepted by the City Government, and an appropriation of $300,000 was voted to carry out the work. The

City Engineer was instructed to make the necessary surveys, plans, and specifications for the work. The latter part of July, one party was put in the field at Roberts' Basin, and later another, while a third party was placed at Beaver Pond, in Lincoln. The work performed at Roberts' Basin has been to make a thorough topographical survey of the land proposed to be flowed, and extended to the highest elevations immediately adjoining; the survey including all the land between the Fitchburg Railroad on the north, South Street on the east, Sumner Street on the south and west, and Central Avenue to Stony Brook Station. A large map has been prepared showing all the estates where land has to be taken for flowage, and other separate plans have been made of the lands to be taken; and in a number of cases duplicate plans have been furnished to the owners of the land. Daily records have been kept of the flow of the stream. Surveys have also been made of the route of the pipe line, some portions having been made on alternative lines. Copies of plans of three different routes through the town (now city) of Waltham have been presented to, and a conference had with, the selectmen, in relation to the proposed routes; but no definite action has been taken.

Plans have also been submitted and a conference had with the selectmen of Watertown. No opposition has been made to the route we have selected through that town, and a definite location will be granted when we desire it. Plans have been presented to Mr. William Roberts and others, owners of estates through which we desire to take land, for their consideration and terms, for which we are now patiently waiting. It is hoped that amicable settlements can be effected.

Borings have been made by Mr. John A. Gill on the site of the proposed dam (on two different lines), to determine the character of the bottom on which the dam is to be constructed. Profiles have been prepared.

The borings thus far made do not show as favorable material for the construction of the foundations as could be desired, and as a consequence the dam will probably be more expensive than was estimated; the plans for this have not yet been fully decided upon, but are under consideration. Plans and detail sketches have been prepared for the gate-chambers and sluiceways at Stony Brook and Fresh Pond ends of the pipe line.

Plans in sheets are now being prepared on a scale of 60 feet to an inch of the whole pipe line of eight miles in length.

By permission of William Roberts, a small building for the use of the engineering parties was erected on his land in Weston, at Stony Brook.

The work at Stony Brook and the pipe line have been in charge of Mr. George Davis, for many years an assistant in this office.

The work at Beaver Pond has been to make topographical surveys of the land which would be flowed by raising that pond 15 feet; all the estates which would be in whole or in part flowed have been included. The field work has been completed, and the plans are now being prepared. The object of this survey is to determine to what extent water could be stored at this point; the survey has shown that a very large basin could be created here, the distance around the contour 15 being some twelve miles. The area of this pond has not yet been determined, but it is thought will exceed 300 acres, and that more than a billion gallons could be stored. It is not the intention to construct this basin at present; but the land might be purchased, if favorable terms could be made with the owners, or be taken under the provisions of our Act.

A very favorable contract has been entered into with Messrs. R. D. Wood & Company, of Philadelphia, for the pipe necessary for this work, the price being much lower than that estimated by the engineers, effecting a saving on the pipe of something over $60,000, which will probably more than cover the increased cost of the dam. A portion of the pipe is already upon the ground, ready to be laid when the weather is suitable.

Mr. N. Henry Crafts has been engaged as consulting engineer, and is very much interested in the work.

The water in Fresh Pond is again at a low stage, and the opportunity has been improved to clean out and deepen the shallow places in the bottom of the pond, and to continue the construction of a roadway around portions of the shore where permission of the owners could be obtained; and there is now a roadway along a very considerable portion of the border. A strip of land for the influent chamber for the pipe from Stony Brook has been taken on the southerly side of Boat-House Nook, together with a strip of land from this to

Holworthy Street; and grading on this pipe line is now in progress. All the work at Fresh Pond has been done under the direction of Superintendent Nevons, of the Water Works.

A new plan of Fresh Pond has been prepared, showing the high and low water lines, made from the best obtainable data, which it is intended to place upon record.

The matter of taking land around the pond has again been agitated, but has been referred to the next City Government. Now that Fresh Pond is to be made a receiving reservoir for the waters of Stony Brook, it seems desirable to have control of the land immediately adjoining, for the purpose of preserving the purity of its waters. The owners of land are favorably inclined, and disposed to sell at reasonable rates; it seems to be a favorable time to secure the required land.

Plans of the entire city (scale 200 feet to an inch) in sheets are now being prepared for the Water Works office, showing the water pipes, gates, and hydrants, and considerable progress has been made on them.

Cemetery.

No extra work has been required by the Cemetery, beyond the usual work of laying out lots, locating and sketching the new graves on the Superintendent's book, giving lines, and grades of lots and avenues. A proposition has been made for the Winchester Estate, contingent on permission being obtained from the town of Watertown (in which town the estate is situated) to use the same for burial purposes. It is hoped that this arrangement may be effected, as the available space for burial is very limited in the old grounds.

Fire-Escapes and Buildings.

I repeat my suggestions of last year: "In my last report your attention was called to the decision of the City Solicitor in the matter of fire-escapes and egress from buildings; in substance, that section 8 of chapter 3, City Ordinances, is inoperative. This, of course, leaves the matter in the hands of the State authorities. I would suggest that our building ordinance be revised, and that more stringent regulations be adopted. It may be best to establish fire limits, and restrict or regulate the kind of buildings for certain localities."

Office.

Aside from the work required by the Water Works, which has in part been paid for by that department, the usual work needed by the various departments has been performed, and about the same number of persons have been employed.

The salary of the City Engineer has, since August, been increased from $2,500 to $3,000 per annum.

The appropriation for this department was . . .	$7,500.00
The expenditures have been	7,047.77
Balance unexpended	$452.23

Respectfully submitted,

WM. S. BARBOUR,
City Engineer.

REPORT

OF THE

SUPERINTENDENT OF STREETS.

To the Honorable City Council:—

THE undersigned asks leave to submit for your consideration his first annual report.

The appropriation for Street Department (Repairs) for the financial year ending Nov. 30, 1884, was	$87,000.00
Additional appropriation	1,819.30
Total appropriation	$88,819.30
Amount expended	$88,819.30

The appropriation for this department has been expended for grading and repairing streets and collecting ashes, necessary labor, material, and the utensils employed. (For the different items, see Auditor's report.) The following streets have been graded during the past year:—

Allston Street, from Fort Washington to Pearl Street.
Boylston Street, from bridge to Mount Auburn Street.
Bowdoin Street, its whole length.
Broadway, from Main to Brewery Street, with cracked stone.
Brewery Street, from Broadway to steam-railroad track.
Brattle Street and Square, the whole length.
Carson Street, its whole length.
Chestnut Street, from Magazine to Pleasant Street.
Charles River Street, its whole length.
Clark Street, from Broadway to Market Street.
Concord Avenue, from Craigie Street to Catholic Church.
Concord Avenue, from Walden to Lake View Avenue.

Dana Street, from Cambridge Street to Broadway.
Dunster Street, from South to Mount Auburn Street.
Elm Street, from Hampshire to Cambridge Street.
Ellsworth Avenue, its whole length.
Fourth Street, from Cambridge Street to Gore Street.
Franklin Street, from Brookline Street to east side of F. A. Kennedy's drive-way.
Gore Street, its whole length, with cracked stone.
Greenough Avenue, its whole length.
Harding Street, partially.
Holyoke Street, its whole length.
Hurlbut Street, partially.
Lambert Avenue, partially.
Market Street, from west of Clark Street to junction of Broadway.
Main Street, from Grand Junction Railroad to Pleasant Street, with cracked stone.
Main Street, from Putnam Avenue to Quincy Street, north side, with cracked stone.
Montgomery Street, from Spruce Street as far as accepted.
Mount Auburn Street, from Brattle Square to Hilliard Street.
Mount Vernon Street, from North Avenue, about 550 feet.
North Avenue, from Porter's Bridge to Spruce Street, with cracked stone.
North Avenue, north side, from Beech Street to Engine-house, with cracked stone.
Porter Street, partially.
Putnam Avenue, from River Street to Grigg Street.
Prospect Street, from Main to Cambridge Street, with cracked stone.
Raymond Street, from Linnæan Street, partially.
Second Street, from Spring to Gore Street.
South Street, its whole length.
Spruce Street, at Bay State Brick Yard, about 200 feet.
Spring Street, from Sixth to Second Street.
Sixth Street, from Cambridge to Gore Street, with cracked stone.
Sixth Street, from bridge to north of Potter Street, with cracked stone.
Sixth Street, from Potter to Rogers Street.
River Street, its whole length, with cracked stone.
Remington Street, its whole length.
Tremont Street, from Somerville line to Hampshire Street.
Tremont Street, from Hampshire Street to Broadway, partially.
Trowbridge Street, from Main Street to near Broadway.
Third Street, from Broadway to bridge, with cracked stone.

Third Street, from Spring to Thorndike Street, with cracked stone.
Warren Street, its whole length, with cracked stone.
Western Avenue, its whole length, with cracked stone.
Winthrop Street, from Holyoke to Dunster Street.
Winsor Street, from Harvard to Main Street.

The streets are in a fair condition, but not what they should be; and before they are, a large amount of money must be expended on them. I would recommend an increased appropriation for the coming year. I desire also to say that the city is almost out of street gravel, and that on hand will not last till next May. Immediate steps should be taken to procure a large supply of good quality. I must say here, however, that more cracked stone and less gravel should be used on our streets.

Street Widening.

The only street widened this year was North Avenue, on its southerly side, for a distance of about 225 feet, including the bridge over Alewife Brook, for which a special appropriation was made; it is substantially done, and a much-needed improvement. The triangular piece at the junction of Bridge and Gore Streets was purchased, for which payment will be made this year.

The new stable for this department which is being constructed is about closed in, and, I think, will be finished at about the time specified in the contract. When done, it will be an ornament of its kind, and perhaps the most complete stable in the city.

Paving.

The appropriation for paving for the financial year was . .	$18,100.00
To which was added the actual revenue	1,614.76
Total appropriation	$19,714.76
Amount expended	18,176.43
Balance unexpended	$1,538.33

Sixty-five orders have been passed during the present year for the laying of sidewalks, setting edgestone, and putting in crossings and drive-ways, fifty-six of which have been completed. A large quantity of edgestone has been reset, and gutters and sidewalks repaved. I might add that this part of the work has hitherto been sadly neglected; there are miles

of it that should have early overhauling. The paving of Main Street, ordered this year, has not been completed, due in part to the want of early action in procuring the paving-stones; and the further misstep in awarding the contract for them to an irresponsible man, for which no one really was to blame. A fraction over one-third of the stone is laid, and about one-half of the labor performed on this order. I would urge immediate action on this subject, so that the committee of next year may be empowered to make a contract for the necessary amount of stone to pave this street to the railroad early in the coming season. It would be money saved to have this street paved to Central Square, and Cambridge Street to Inman Square. It would also, in my judgment, be money saved, and a great advantage and accommodation to the travelling public, if all our main thoroughfares had edgestones set and brick sidewalks laid.

Street Department (Watering).

The appropriation for this department was	$29,000.00
Additional appropriation	2,842.08
Total appropriation	$31,842.08
Amount expended	$31,842.08

This amount looks large at first sight, but a little explanation will give the cause. This year, there were two years' water-bills paid: one of $6,036 for the year 1883, and one of $6,131.71 for the season just closed. There were also six new carts bought at an expense of $2,790, and extensive repairs made on the twenty old ones, which amounted to over $1,000. I would earnestly recommend that six new carts be procured for the coming season, to take the place of a like number which have to be hired for the summer, and which, to say the least, are no ornament to the city.

Bridges.

The appropriation for bridges was	$10,000.00
Additional appropriation	3,500.00
Total appropriation	$13,500.00
Amount expended	13,499.72
Balance unexpended	$ .28

Boylston Street, River Street, and Western Avenue bridges have been substantially rebuilt this season; for expense thereof, see Engineer's report. All the other bridges are in fair condition, and will require nothing more than the ordinary repairs, except Third Street bridge, which is not safe, and should be rebuilt the coming year.

Shade-Trees and Public Grounds.

The appropriation for this department was	$4,000.00
Additional appropriation	119.18
Total appropriation	$4,119.18
Amount expended	$4,119.18

This department is in fair condition, but I think the appropriation should be increased so as to allow for a more liberal trimming of the trees than they can have with the small appropriation of past years. Dana Square should be properly graded, as in wet weather it is more like a pond than a park.

The following streets have been accepted during the year: —

Albany Street, from Main to Osborn Street.
Henry Street, from Sidney to Waverly Street.
Holyoke Street, from South to Mill Street.
Lowell Street, from Brattle to Mount Auburn Street.
Ninth Street, from Otis to Spring Street.
Spring Street, from Sixth to Ninth Street.
Sidney Street, from Chestnut to Henry Street.

Schedule of Property belonging to Street Department.

Twenty-nine horses	$5,800.00
Twenty-seven watering-carts	8,100.00
Engine and stone-crusher	3,500.00
Five street-rollers	1,500.00
Twenty-three carts	2,430.00
Twenty-four sets of harness, etc.	622.00
Eight wagons	495.00
Twenty-six sleds and snow-plows	995.00
Amount carried forward	$23,442.00

Amount brought forward	$23,442.00
Railroad track, at East Cambridge	400.00
Tools and stable furniture	763.00
One hundred and twenty feet of edgestone	60.00
One thousand and eighty feet of North River flagging	464.40
Three thousand bricks	36.00
Eighty tons of gutter paving-stone	128.00
Twenty tons of field stone, to crush	18.00
Three hundred yards of cracked stone	600.00
Six lawn-mowers	90.00
One lawn-roller	15.00
One lawn hand-cart	80.00
Two pungs	75.00
Garden hose	10.00
Total	$26,181.40

I conclude with returning my heartfelt thanks to the members of the Standing and Joint Committees for their kind assistance and direction ; to his Honor, the Mayor, and the other members of the City Council, for their indulgence and words of approval ; and to the heads of the different departments, for their ready assistance, suggestions, and advice when needed.

Respectfully submitted,

JOHN McSORLEY,
Superintendent of Streets.

REPORT

OF THE

COMMISSIONER ON WEST BOSTON, CANAL, AND PRISON POINT BRIDGES.

The Commissioner for West Boston, Canal, and Prison Point Bridges submits for himself and associate the fourteenth annual report of matters pertaining to the West Boston and Canal Bridges, and the eighth annual report on Prison Point Bridge.

West Boston Bridge.

Early in the spring specifications and plans were prepared for raising and repairing the roadway and sidewalks on the filled portions of the Cambridge end of this bridge, and proposals for doing this work were invited from a number of the best firms engaged in the paving business. Messrs. Kidney & Libby of Boston were the lowest bidders, and the contract was awarded to them. The work was very thoroughly done, and the improvement in the condition of this section of the bridge, as regards convenience and safety for team and foot travel, is very marked. The bulkhead on the southerly side of the Boston end of the bridge has been rebuilt, and the sidewalk floor-plank and supporting stringers, where they were found to be rotten, have been replaced with new timber. The bulkhead on the northerly side of this portion of the bridge is very rotten, and although temporarily repaired by covering it with hard-pine plank, it will require rebuilding the coming season. The bulkheads on the Cambridge side have been repaired by covering them with hard-pine plank for their entire length. They will be safe for another year, with proper attention, but must be entirely rebuilt. The floor-timbers and

planking of the draw-piers have been renewed, a new shed built adjoining the engine-house, and the engine-house and shed have been newly painted. The upper surface of the top rails of the fences for the entire length of the bridge has also been painted. The draw and its appurtenant machinery are in good order. The steel bearing-plates of the centre pivot put in last year are wearing well. With the exception of the bulkheads, the entire bridge is in good condition.

Canal or Craigie's Bridge.

Only the ordinary repairs have been made on this bridge during the year. The under flooring of the draw will have to be removed next season, and the wood and iron work of the draw and fences on the bridge will require painting.

Careful examinations are made from time to time of the old portions of the substructure on the Cambridge end of the bridge, but no change for the worse has been noted during the past year.

The electric lighting of this bridge and the West Boston Bridge has been continued, and the Commissioners believe that the slightly extra cost of this system as compared with gas has proved an advantageous expenditure.

Prison Point Bridge.

It was found necessary to renew the under floor of the draw with new hard-pine planks, the old ones were so rotten. The gears for raising the draw have been changed so as to increase their power, and to give better control of the draw at all stages of the tide and conditions of the weather. Movable weights should be applied to the overhanging ends of the draws, to compensate for the variable weights of these portions, caused by wear of flooring, accumulation of ice, etc.

The bridge is now in good order, and no repairs except the ordinary ones will be required during the next year.

The usual statements of the number of openings of the draws of the several bridges, as reported by the superintendents, are appended.

WILLIAM J. MARVIN,
Commissioner for Cambridge.

CAMBRIDGE, Dec. 17, 1884.

Number of times the draw in West Boston Bridge has been opened during the year: —

December,	1883	160
January,	1884	8
February,	"	8
March,	"	33
April,	"	108
May,	"	210
June,	"	277
July,	"	268
August,	"	244
September,	"	208
October,	"	214
November,	"	125
Total for the year		1,836

CHARLES W. BLANEY,
Superintendent.

Number of times the draw in Canal Bridge has been opened during the year: —

December,	1883	202
January,	1884	59
February,	"	27
March,	"	74
April,	"	241
May,	"	299
June,	"	428
July,	"	377
August,	"	337
September,	"	301
October,	"	324
November,	"	264
Total for the year		2,933

A. W. SMITH,
Superintendent.

Number of times the draw in Prison Point Bridge has been opened during the year: —

December,	1883	65
January,	1884	51
February,	"	15
March,	"	15
April,	"	29
May,	"	39
June,	"	33
July,	"	20
August,	"	37
September	"	35
October,	"	33
November,	"	40
Total for the year		412

NATHANIEL W. STORY,
Superintendent.

The expenses of the City of Cambridge for the care and maintenance of the West Boston, Canal, and Prison Point Bridges for the year were as follows: —

Amount of appropriation	$10,000.00	
Receipts, rents, and sundries	224.46	
		$10,224.46
For Superintendents' and Engineer's salaries	$2,499.92	
Commissioner's salary, William J. Marvin	500.00	
Lumber	1,546.93	
Repairs, carpenter-work	859.44	
" iron work	91.80	
" painting, etc.	67.06	
Electric lights	1,189.50	
Paving, granite blocks, bricks, and sand	1,114.97	
Watering bridges	400.00	
Cleaning roadway, etc.	189.03	
Fuel	223.94	
Hardware and tools	172.59	
Stationery, printing, and car-fares	31.75	
Water-rates	14.50	
Legal expenses and court fees	19.94	
Sundry small expenses	65.48	
Total		8,986.85
Balance, Dec. 1, 1884		$1,237.61

REPORT

OF THE

HARBOR-MASTER ON CHARLES RIVER, MILLER'S RIVER, AND BROAD CANAL.

To the Honorable City Council of the City of Cambridge : —

THE undersigned herewith presents his report from Aug. 4, 1884.

By your favor, you appointed me to the office of Harbor-Master. August 30, called to have a vessel removed out of draw on West Boston Bridge. September 8, called to settle difficulty between two tugs in Broad Canal. September 16 and 17, was called by draw-tender on Third Street to have vessels removed, so others could pass through. September 22, called on by the City Engineer of Cambridge, to regulate the actions of captains of tug-boats in going through the draws on Brookline and River Street bridges, they being very reckless, and having injured the draws. December 8, vessel ran into West Boston Bridge and damaged fence; was called on to estimate the cost of replacing the fence.

Our shipping interests are on the increase. In 1883, the draws on West Boston, Canal, and Prison Point Bridges were opened 5,213 times for the passage of vessels. Have had some rules and regulations copied from the Statutes, and printed, concerning the powers of the Harbor-Master, and distributed to the owners and tenants of wharf-property and captains of tugs, a copy of which is appended to this report for your consideration.

Respectfully submitted,

WILLIAM J. MARVIN.

EXTRACTS FROM THE PUBLIC STATUTES, CHAPTER 69, CONCERNING POWERS OF HARBOR-MASTER.

SECT. 23. No person shall throw or deposit in a harbor stones, gravel, ballast, cinders, ashes, dirt, mud, or any other substances, which may in any way tend to injure the navigation of such harbor.

SECT. 24. No warp or line shall be passed across any channel or dock so as to obstruct vessels passing along the same.

SECT. 26. Every master of a vessel within a harbor for which a harbor-master is appointed shall anchor his vessel according to the rules and regulations of the harbor-master, and shall move to such other place as the harbor-master may direct; and every master of a tow-boat having a vessel in tow and every pilot having a vessel in charge shall allow such vessel to anchor only in such place as the rules and regulations of the harbor-master provide for anchorage.

SECT. 27. Every vessel, before unloading lumber in the stream or channel of a harbor having a harbor-master, shall obtain a permit from such harbor-master, designating where such lumber may be rafted, so as to avoid obstructing the channel or hindering the movements of other vessels.

SECT. 28. Every vessel lying in a harbor, or at a wharf or pier in a harbor, shall, when directed by the harbor-master thereof, cockbill the lower yards, brace the topsail yards fore and aft, and rig in the jib-boom.

SECT. 29. A harbor-master may cause the removal of any vessel lying in his harbor and not moving when directed by him so to do, and the expense of such removal shall be paid by the master or owners of such vessel. In case of their neglect or refusal to pay such expense after it has been demanded, it may be recovered in an action of contract by the harbor-master, from the master or owner of such vessel, to the use of the city or town in which the harbor is situated.

SECT. 30. If a vessel occupying a berth at a wharf or pier, either with or without the consent of the wharfinger thereof, fails, upon notice from such wharfinger or his agent to the master or to those having such vessel in charge for the time being, to vacate such berth in a reasonable time, to be adjudged by the harbor-master, the harbor-master shall then cause such vessel to be moved to some other berth or anchored in the stream, and the expense of such removal may be recovered in an action of contract by the harbor-master, from the master or owner of such vessel, to the use of the city or town in which said harbor is situated.

SECT. 31. Harbor-masters may, in their respective harbors, regulate and station all vessels in the stream or channels thereof, and may remove such as are not employed in receiving or discharging their cargoes, to

make room for such others as require to be more immediately accommodated for the purpose of receiving or discharging their cargoes ; and as to the fact of their being fairly and actually employed in receiving or discharging their cargoes, the harbor-master shall determine.

SECT. 33. Whoever violates any of the preceding sections, or refuses or neglects to obey the instructions of a harbor-master, lawfully given, or resists a harbor-master in the execution of his duties, shall be liable to a fine of not more than fifty dollars.

SECT. 34. Any person violating the foregoing provisions, in addition to any fines imposed in accordance herewith, shall be liable in an action of tort to any person suffering damage by such violation.

REPORT

OF THE

CAMBRIDGE WATER BOARD.

To the Honorable City Council of the City of Cambridge:—

In accordance with the city ordinance, the Water Board herewith makes to you its twentieth annual report, being for the year ending Nov. 30, 1884: —

Total Cost of the Works.

Cost of the Water Works, Nov. 30, 1883, as per last year's report	$1,751,344.97
Expended on construction account during the year ending Nov. 30, 1884	31,519.74
Making the total expenditure	$1,782,864.71

Water Bond Account.

Whole amount of bonds issued	$1,750,900.00
Amount paid from Water Loan Sinking Fund .	291,400.00
Leaving the unpaid Water Loan	$1,459,500.00
From this deduct the present value of the Water Loan Sinking Fund, per Trustees' account . .	787,161.56
Leaving the balance of Water Loan yet to be provided for by the Sinking Fund	$672,338.44

Statement showing in brief the transactions in connection with the Water Works for the year ending Nov. 30, 1884, including the unsettled balances of 1883: —

Memorandum.

In making up the accounts this year we have separated the "construction account" from the other accounts, in order that our books may agree with those of the City Auditor and Treasurer.

The following will show the corrected account of 1883, made up without including "construction account," and showing the amount actually due the Sinking Fund for 1883, and which this year is carried to that account, as will be seen further along: —

Received, 1883.

Net water-rates per last report	$179,361.89
Shutting off and letting on water, and fines	529.50
Rent of house	144.00
Supply account	6,053.86
	$186,089.25

Expended.

Maintenance account	$45,763.29	
Less bill unpaid	391.68	
		$45,371.61
Supply account		4,028.74
Interest on Water Loan	$88,585.00	
Add, paid by Treasurer	219.00	
		88,804.00
Sinking Fund, three per cent		44,355.00
Balance, showing surplus in 1883		3,529.90
		$186,089.25

We make the above memorandum and statement, that what might seem discrepancies between our account last year and this year may be explained.

Construction Account.

EXPENDED.

On general construction	$18,900.00	
On Stony Brook extension	12,619.74	
Expended in 1883, but not provided for by the issue of bonds	5,730.50	
		$37,250.24

RECEIVED.

From bonds issued Nov. 1, 1884 . . .	$36,000.00	
From premium on bonds	1,087.20	
From accrued interest for November . .	120.00	
Balance due city treasury	43.04	
		37,250.24

Water-Rates, Fines, and Supply Account.

RECEIVED.

From water-rates . . .	$162,295.27	
Less rates refunded . .	769.00	
		$161,526.27
Shutting off and letting on water, seals, and fines	372.00	
Rent of house	144.00	
From supply account	4,855.66	
Balance due Sinking Fund, 1883 . .	3,529.90	
		$170,427.83

EXPENDED.

For maintenance account	$28,765.33	
For supply account	5,234.96	
For interest paid on Water Loan . .	84,451.00	
		$118,451.29
Paid Sinking Fund three per cent on $1,423,500 bonds outstanding . . .	$42,705.00	
Surplus of 1884, to Sinking Fund . .	5,741.64	
Surplus of 1883, to Sinking Fund . .	3,529.90	
		51,976.54
		$170,427.83

Memorandum.

It will be seen by the above statement that with only ten months' receipts we show a surplus of $5,741.64 for this year. This is accounted for by the present City Council giving us credit this year for the water used during the year for watering the streets, amounting to $6,131.71, instead of passing the bill over to the next City Government to settle, as has been the custom for many years past. Thus we have the receipts from this source for both 1883 and 1884 in this year's account. If it had not been for this commendable change in the payment of the bill in the year where it really belonged, we should have shown a deficiency, instead of a surplus, this year.

In this connection we would repeat in substance what we anticipated last year, and which has now become a reality, that the estimated cost of bringing in our new water supply from Stony Brook, most of which will be expended during the coming year, will increase our annual fixed charges by the sum of $35,000; by which it will be seen that another year we shall need the entire receipts for twelve months to meet our expenses and interest, and to pay into the sinking fund what the law requires.

Comparative Receipts.

Water-rates for the year ending Nov. 30, 1883 . .	$179,361.89
Water-rates for the year ending Nov. 30, 1884 . .	161,526.27
Showing loss in 1884	$17,835.62

The explanation of the above apparent loss in 1884 is two-fold, as follows: —

1st. The time for collecting the water-rates, for what seemed good reasons, was changed by the City Council from July 1 to May 1, and this gave us but ten months' water-rates to collect in 1884. We estimate this loss of two months' rates would amount to about $22,200.

2d. The reduction in the water-rates made this year we estimate cut down our receipts, as compared with the previous year, about $7,700.

If we take these two amounts, say	$29,900.00
And deduct the above deficiency of 1884	17,835.62
We should have, as a gain, on the same basis . .	$12,064.38
Deduct now the reduction in rates, which will remain a permanent loss	7,700.00
And we have about our real comparative showing, of 1883 and 1884, to be gain	$4,364.38

Instead of a loss of $17,835.62, as appears above.

Water Supplied.

Amount of water pumped in 1883 . . .	980,670,464 gallons.
Amount of water pumped in 1884 . . .	961,368,830 gallons.
Showing a decrease as compared with last year of	19,301,634 gallons.

This decrease in the consumption, although there have been more new supplies put in during the past year than for many former years, will, we think, be readily explained by looking at the Comparative Table of Rainfall herewith submitted. It will be seen that there was more than fifty per cent more rainfall in 1884 than in 1883 for the six months, from April 1 to October 1 each year, and this caused a large saving in the amount of water used through hand-hose.

If we divide the total amount of water pumped, 961,368,830 gallons, by 61,500, our present estimated population, we have a daily average per capita of 42.7 gallons; and this includes all water used for manufacturing purposes, watering streets, and for the extinguishment of fires, and continues us among the most economical cities in the use of water.

Sources of Water Supply.

Months.	Rainfall.			Water in the Pond below High-water Mark.		
	1882.	1883.	1884.	1882.	1883.	1884.
	Inches.	Inches.	Inches.	Feet.	Feet.	Feet.
December, 1883	3.30	1.87	2.94	5.48	6.45	11.10
January, 1884	4.73	2.94	4.81	5.48	7.10	10.67
February, ,, ...	4.48	2.85	6.67	4.27	6.73	8.89
March, ,, ...	2.49	1.76	4.91	1.32	5.52	5.90
April, ,, ...	2.27	2.48	4.22	1.24	5.09	2.99
May, ,, ...	4.93	4.10	3.18	1.64	5.63	3.01
June, ,, ...	2.73	2.28	3.79	2.08	6.32	3.68
July, ,, ...	2.08	2.38	4.56	3.04	7.47	4.33
August, ,, ...	1.41	.34	4.76	4.32	8.74	4.83
September, ,, ...	7.80	1.18	.70	5.09	9.87	5.68
October, ,, ...	2.19	5.61	2.90	5.32	10.38	6.67
November, ,, ...	1.21	1.96	2.63	5.90	10.75	7.34
Total for the year . .	39.62	29.75	46.07	Av. 3.77	Av. 7.50	Av. 6.26

The winter of 1883–84, fortunately for us, proved an unusually good one for getting a supply of water from the watershed represented by Wellington Brook. Several heavy falls of snow melted, and ran off in such a way that we were enabled to fill the Pond $8\frac{11}{100}$ feet, or within about 3 feet of high-water mark. The extremes being 11.10 feet below high-water mark in December, 1883, and 2.99 feet below high-water mark in April, 1884, showing a gain of $8\frac{11}{100}$ feet, as above. Notwithstanding the large amount of water caught and stored in the spring, and that the rainfall this year was more than fifty per cent over last year, yet the water on December 1 this year was only about six inches over the conduit leading to our pumps. These yearly experiences of reducing our Pond to so low a point, and this year under the most favorable circumstances, such as we cannot depend upon, confirm us in the conviction that we have not moved any too soon for a new and larger supply of water.

By reference to the rainfall tables herewith presented you will see that there were 46.07 inches of rainfall in 1884, as against 29.75 inches in 1883, showing a gain of 16.32 inches, or

more than fifty per cent. This has had an important influence on the supply of water from unseen sources, or the ground flow of water that has found its way into the Pond.

Quality of the Water.

The good results of making the dams last year, which largely shut out of the Pond the low and marshy places on the south-westerly side, where large amounts of vegetation grew every year and decayed, falling into the Pond, have been seen in the excellent condition of our water during the year. It is seen in the analysis made for us; and we have never had less complaint about the water from our consumers, while, on the contrary, many have spoken in favorable and complimentary terms of the excellence of Fresh Pond water. There is now but one large place of pollution left which is still open directly into the Pond, — we refer to Black's Nook; in some respects this is the worst place of all; with this cut off by a dam we shall have a respectable and cleanly place to store our water. All reasonable efforts have been made by the Board to get the judicial injunction removed, so that we could proceed and put a dam across this nook; we shall continue our efforts, with the hope of ultimate success.

Additional Water Supply.

After urging the necessity of a further and larger water supply for several years, and having been obliged to record for three successive years our failure to get an Act of the Legislature for that purpose, we are now glad to state that last winter we secured the right to take water from Stony Brook, which is the boundary line between Waltham and Weston. In the month of July your honorable body made the necessary appropriation, at our request, to enable us to commence the work at once. We were obliged to make borings for the dam at Stony Brook, and a large amount of surveying work was necessary in order to get ready to lay out the work that was to be done. This is now completed, and the working plans are being made. We expect to commence the work on the dam within a short time, and to prosecute the same with all possible means at our disposal. A contract was awarded for making the necessary pipe and special castings, and some of the pipe is already

delivered on the line where it is to be laid. We expect all of it will be delivered during the winter and spring, and we hope that by the end of another year the work will be well advanced towards completion.

As it is now settled that Fresh Pond must be our reservoir and storage basin for the next fifty years or more, it becomes a matter of great importance that all proper means should be used to furnish a clean and properly protected place to receive our new water supply. During this year we have done what we could to supplement the work, so well begun last year, of cleaning out the Pond. Taking advantage of the low state of the water in the Pond, we have removed a large amount of soft vegetable deposit from the bottom and around the borders, and in some shallow places we have dug the Pond deeper; we have also built up the banks of the Pond, and rip-rapped them with clean gravel and stone, so as to make it a clean and proper reservoir. All this has been done at a comparatively small expense, when we consider the benefit to be derived therefrom. Nature has done much to furnish Cambridge with a large storage basin, very convenient, and with attractive surroundings, combining the useful and beautiful in an unusual degree.

In 1875 the Legislature gave the city the right to take a strip of land five rods wide around the borders of the Pond (except where used for ice-cutting), for the purpose of preserving the purity of the water. In some places five rods wide might answer this purpose, but in other places, owing to the lay of the land, five rods is not enough. While it was not decided where the city would procure an additional and permanent supply of water, the Board did not feel like asking the City Council for the power to take this land, or purchase other needed land, to control the borders of the Pond and preserve the purity of the water. We are now unanimously of the opinion that the time has come when we should proceed under the Act referred to, and, by purchase, secure what land is needed for this purpose. We have therefore sent to you a communication setting forth briefly the facts in the case, and asking that the Water Board be authorized, by purchase or otherwise, to secure the necessary land around the Pond, to control the borders and preserve the purity of the water.

In connection with this it has been suggested that a road or drive-way might be made around the Pond, which, beside the additional value it would give to real estate in that neighborhood, would effectually shut off any building on its immediate borders, as the road could be so located as to make it, a large part of the way, the proper boundary of the land needed around the Pond. We are informed that the parties who own the land are nearly, if not quite, all willing to give the land, provided the city will lay out the road. We think this matter is worthy of your careful consideration and prompt action.

Extensions.

During the past year the high service has been extended to Dana Hill and to some of the high buildings of Harvard College. Wherever it has been introduced it gives great satisfaction, and even exceeds our expectations. A large pipe has also been carried up into the Belmont district. For the detailed accounts of all that has been done, and the present condition of things in connection with our Works, we would refer you to the reports made by the Registrar and the Superintendent to this Board, which latter contains the report of the Pumping Engineer to him; all of which we herewith submit to you as part of our report.

General Remarks.

As it became necessary for us to provide a place for a gate-house on the borders of the Pond where our water from Stony Brook will be discharged, and some way to get to it without trespassing on private property, also for the commencement of our pipe line from the Pond to Stony Brook, we have, under the power granted to the city by the Act of the Legislature of 1884, and by the City Council delegated to the Water Board, taken, by the right of eminent domain, a parcel of land on the easterly side of the Pond near Boat-House Nook, so called. Beginning at Fresh Pond Lane and running southwesterly, bounding on the Watertown branch railroad, forty feet wide, for a road-way; also a triangular piece, one side bordering on said railroad, and one side bordering on the Pond, for a gate-house; we have also taken a right of way along said railroad fifteen feet wide,

running southeasterly and through private lands to Arsenal Street in Watertown, for a pipe line. The pipes are now being distributed along this line. As our work proceeds, other lands and rights of way will have to be procured by purchase or taken by right of eminent domain.

All the departments of the Water Works are in good condition, and the officers and regular employés are prompt and efficient in the performance of their duties. The Superintendent is about, early and late, looking after the details of the work, determined that no other water works shall exceed ours in good management and in reaching the most desirable results. Our new Registrar, who was familiar with the details of his office before his election, keeps everything in his department in good condition, and his many accounts well in hand. Our City Engineer has responded to our many calls with a promptness which shows his interest in our part of the city work, and his willingness to do all he can to assist us.

As it would be impossible for the City Engineer to give all the time we required, in addition to his other duties, we have employed Mr. N. Henry Crafts as consulting and assistant engineer during the building of the dam at Stony Brook, and while bringing the water to Fresh Pond. Mr. Crafts was the one who first suggested this source of supply for Cambridge. His long experience in this branch of engineering, and his familiarity with the whole matter, we think will make his services of great value to us. Our arrangement with him is such that we can command his entire time, if our interests require it. The making of the dam is a very important work, which must be well done and made safe, and we intend to have him inspect it as it progresses to the end.

We wish to express our gratitude to the City Council for its hearty and prompt response to our request for the means necessary to bring from Stony Brook our new water supply. At this time we believe it to be the most important of any one interest connected with the welfare of our city. In the future we have no doubt it will be a source of satisfaction and pleasant remembrance to all who had the opportunity, and lent a helping hand, to carry out this great and much-needed improvement. After we are all gone, the Water Works will remain a blessing to our successors, and a monument of sound and prudent actio-

on your part in providing so great a boon for the present and future inhabitants of Cambridge.

In our last report it became our sad duty to refer to the death of our late President, the Hon. George P. Carter, whose loss we still mourn. This year it seems proper that we should refer to the death of our late Registrar, J. Warren Cotton. Mr. Cotton died July 30, last, after a long and painful illness. He was for many years in the employ of the city in offices of trust and responsibility, and always did his work well. We wish to put on record our high appreciation of his character as a man, and his faithfulness in the discharge of the duties of his office while he was Registrar; not only has the city lost a faithful servant, but the community has lost a good citizen, who led an upright and honorable life.

C. W. KINGSLEY,
K. S. CHAFFEE,
JOHN F. O'BRIEN,
JAMES M. W. HALL,
JAMES A. FOX,
GEO. H. HOWARD,
} *Water Board.*

REPORT

OF

THE WATER REGISTRAR.

WATER REGISTRAR'S OFFICE,
CAMBRIDGE, Dec. 12, 1884.

To the Cambridge Water Board:—

IN compliance with the requirement of the City Ordinance, I present the twentieth annual report of the operations of this department, showing the receipts, expenditures, and abatements, together with a statement of the number of water-takers, fixtures, etc., for the year ending Nov. 30, 1884.

Amount of bills remaining unpaid Nov. 30, 1883:—		
Water-rates	$123.12	
Meter-rates	37.32	
Supplies and repairs	498.46	
	$658.90	
Amount of bills placed in hands of City Treasurer for collection, from Nov. 30, 1883, to Dec. 1, 1884:—		
Water-rates	$131.650.99	
Meter-rates	33,178.10	
Supplies and repairs	5,204.21	
Off and on water, rent, fines, and seals	516.00	
Total bills		$171,208.20
There have been collected:—		
Water-rates	$162,295.27	
Off and on, seals, and fines	372.00	
Amounts carried forward	$162,667.27	$171,208.20

Amounts brought forward		$162,667.27	$171,208.20
Rent of house and pipe-yard		144.00	
Supplies and repairs		4,855.66	
Total collections		$167,666.93	

There have been abated: —

Water-rates	$2,599.71		

There remains unpaid: —

Water-rates	94.55		
Supplies and repairs	847.01		
		3,541.27	
			$171,208.20

Expenditures.

Construction account (general)		$18,900.00	
Construction account (Stony Brook)		12,619.74	
Maintenance account, viz.: —			
Care and repairs	$15,801.05		
Pumping service	7,874.82		
New pumping service (salaries, coal, etc.)	1,563.14		
Office expenses	3,526.32		
		28,765.33	
Supply account		5,234.96	
Total			$65,520.03

Abatements.

Water-rate bills to the amount of	$2,599.71

Charges for water-rates, when the supplies are afterwards shut off, or fixtures sealed, are necessarily abated before the accounts can be balanced. New charges are then made when the water is again let on.

Refunds.

Water-rates have been refunded to the amount of	$769.00
Which amount, deducted from receipts	162,295.27
Leaves net receipts for water	$161,526.27
Add off and on, seals, fines, and rent	516.00
Makes net receipts of rates, fines, &c.	$162,042.27

Off and On.

Water has been shut off for non-payment of rates, or per order, on account of vacancy, and seals have been applied to fixtures by request of owners or occupants, as follows: —

Supplies shut off in 1883	303
" let on, shut off in 1883	218
" let on, shut off in previous years	61
New supplies let on	311
Seal-locks applied to fixtures in 1883	364
" removed, put on in 1883	146
" removed, put on in previous years	145

Statement of the yearly revenue received from water-rates, since the purchase of the Works by the city: —

From	April	28, 1865,	to	Dec.	1, 1865		$32,367.19
"	Dec.	1, 1865,	"		1, 1866		40,073.27
"	"	1, 1866,	"		1, 1867		52,733.62
"	"	1, 1867,	"		1, 1868		63,747.42
"	"	1, 1868,	"		1, 1869		76,149.30
"	"	1, 1869,	"		1, 1870		92,606.95
"	"	1, 1870,	"		1, 1871		111,782.65
"	"	1, 1871,	"		1, 1872		127,201.30
"	"	1, 1872,	"		1, 1873		146,117.32
"	"	1, 1873,	"		1, 1874		153,634.27
"	"	1, 1874,	"		1, 1875		138,880.37
"	"	1, 1875,	"		1, 1876		179,166.76
"	"	1, 1876,	"		1, 1877		154,843.59
"	"	1, 1877,	"		1, 1878		157,443.91
"	"	1, 1878,	"		1, 1879		164,681.90
"	"	1, 1879,	"		1, 1880		173,325.49
"	"	1, 1880,	"		1, 1881		170,062.73
"	"	1, 1881,	"		1, 1882		177,430.80
"	"	1, 1882,	"		1, 1883		179,361.89
"	"	1, 1883,	to	May	1, 1884		161,526.27

Comparative Statement.

	1883.		1884.	
Construction Account.				
Received				
Expended		$5,730.50		$31,519.74
Supply Account.				
Received		$6,053.86		$4,855.66
Expended		4,028.74		5,234.96
Excess of receipts		$2,025.12		
Excess of expenditures				$379.30
Maintenance Account.				
RECEIVED.				
Rates, fines, etc.		$180,035.39		$162,042.27
EXPENDED.				
Care and repairs	$45,371.61		$28.765.33	
Interest on Water Debt	88,804.00		84,451.00	
Paid to Sinking-Fund Commissioners	44,355.00	178,530.61	42,705.00	155,921.33
Excess of receipts		$1,504.78		$6,120.94

1883.	Maintenance Account, excess of receipts	$1,504.78
	Supply Account, excess of receipts	2,025 12
	Excess of total receipts over total expenditures	$3,529.90
1884.	Maintenance Account, excess of receipts	$6,120.94
	Supply Account, excess of expenditures	379.30
	Excess of total receipts over total expenditures	$5,741.64

The excess of receipts for 1883 and 1884, as shown in the above comparative statement, amounting to $9,271.54, has been carried to the Sinking Fund, as required by law.

The falling-off in receipts for 1884, as compared with 1883, is caused by the change of date of payment of annual bills from July 1 to May 1, giving us but ten months' receipts for this year, and by the reduction of $22-rate houses to $18.

Beside the manufactories, etc., supplied by meter, water is now supplied to 12,015 families, 783 stables, with 2,190 horses and 266 cows, 218 shops, 362 stores and offices, by the following fixtures, viz. : —

14,582 faucets.	20 hopper-closets.
3,962 wash-basins.	81 urinals.
2,445 wash-tubs.	64 yard hydrants.
2,195 bath-tubs.	5 fountains.
5,577 pan-closets.	3 tumbler-washers.
808 slop-closets.	1,029 hand-hose.

Also,

601 fire-hydrants (beside 4 on private premises).
13 fire-reservoirs.
15 drinking-fountains in public squares.

The above is exclusive of the school-houses, engine-houses, police stations, and other city buildings, for which special rates are charged, except where meters are located.

All premises supplied with Fresh Pond water have been visited during the year, and from this inspection, aided by reports from plumbers, a considerable amount of water-rates has been added for fractional parts of the year.

Respectfully submitted,

WALTER H. HARDING,
Registrar.

REPORT

OF THE

COMMITTEE ON ACCOUNTS OF THE CAMBRIDGE WATER BOARD.

We have examined the abstract of accounts, as presented us by the Water Registrar, covering the records of the past year. We have compared these with the statements submitted to us by the City Treasurer and Auditor, and we find them to agree. Annexed is the financial statement, in brief, presented to us by the Water Registrar, and verified by us: —

Amount of bills in hands of City Treasurer, Nov. 30, 1883: —		
For water-rates	$123.12	
" meter-rates	37.32	
" supplies and repairs	498.46	
		$658.90
Amount of bills delivered to the City Treasurer for collection during the year ending Nov. 30, 1884: —		
For water-rates	$131,650.99	
" meter-rates	33,178.10	
" supplies and repairs	5,204.21	
" off and on, seals, and fines	372.00	
" rent of house at pipe-yard	144.00	
		170,549.30
Amount carried forward		$171,208.20

Amount brought forward			$171,208.20
Of these amounts the Treasurer has collected . . .	$167,666.93		
Less refunded	769.00		
		$166,897.93	
Refunded as above		769.00	
Abated		2,599.71	
Balance uncollected, Nov. 30, 1884		941.56	
			$171,208.20

JAS. M. W. HALL,
JAMES A. FOX,
GEO. H. HOWARD,
Committee on Accounts.

CAMBRIDGE, Dec. 1, 1884.

ANNUAL STATEMENT OF THE WATER REGISTRAR TO THE COMMITTEE ON ACCOUNTS, DEC. 1, 1884.

Water-rates unpaid, Nov. 30, 1883 . . .			$160.44
Bills placed in hands of City Treasurer for collection, from Dec. 1, 1883, to Dec. 1, 1884: —			
Water-rates from fractional ledger . . .			18,827.56
" " annual ledger			12,333.47
" " meter ledger			33,178.10
" " building account . . .			489.96
Off and on, rent, and fines			402.00
Seals			114.00
Total bills on rates, fines, etc. . .			$165,505.53
Supply and repair bills unpaid Nov. 30, 1883	$498.46		
Supply and repair bills placed in hands of City Treasurer for collection, Nov. 30, 1883, to Nov. 30, 1884	5,204.21		
		5,702.67	
Total bills			$171,208.20
There has been collected, fractional ledger		$17,990.25	
" " annual ledger .		110,665.46	
" " meter ledger .		33,149.60	
" " building account		489.96	
" " off and on, rent and fines . .		402.00	
" " seals		114.00	
Total collections on rates, fines, etc..		$162,811.27	
Collections on supply and repair accounts .		4,855.66	
Total collections		$167,666.93	
Amounts carried forward		$167,666.93	$171,208.20

Amounts brought forward		$167,666.93	$171,208.20
There have been abated, water-rates . . .		2,599.71	
There remain uncollected, water-rates	$94.55		
There remain uncollected, supplies and repairs	847.01		
		941.56	
			$171,208.20
Total collections		$167,666.93	
Less refunds		769.00	
Total net receipts			$166,897.93

Attest: W. H. HARDING,
Registrar.

REPORT

OF THE

SUPERINTENDENT OF THE WATER WORKS.

CAMBRIDGE, Dec. 1, 1884.

To the President and Members of the Cambridge Water Board: —

GENTLEMEN, — The annual report of your Superintendent, upon the condition of the Works and the operations of the past year, is herein presented.

The total amount of water pumped is 961,368,830 gallons. Coal consumed per million gallons pumped, 1,617 pounds. Water sold by meter, and that used for watering streets, 260,316,125 gallons, leaving as the amount for domestic use 701,052,705 gallons. Number of gallons daily for each inhabitant on whole amount pumped, 42.7 gallons. Number of gallons daily for each inhabitant on amount for domestic use, 31.14 gallons.

Spy and Little Ponds, Wellington Brook and Conduit.

Slight repairs have been made on the gate-house at Spy Pond. The houses and gates are now in good condition. No water has been drawn from either pond. The filter-basin appears to be in good condition; water was drawn from this source January 16, to April 10. The condition of Wellington Brook remains the same as at date of my last report. The gates were opened December 27, supplying Fresh Pond from this source from time to time as the condition of the water would warrant, until April 10, when the gates were closed. No inspection of the interior of the conduit has been deemed necessary; it appears to be in good repair.

Fresh Pond.

A large amount of work has been done on the borders of the Pond in clearing out and deepening shallow places, in forming banks, and rip-rapping the same. A street has been built, extending southerly from Fresh Pond Lane to the Pond at the north side of Boat-House Nook; and there is now a drive-way, with an average width of 20 feet, continuing from this point around the south and west shores as far as Black's Nook, where further improvements are obstructed for the present. It is a source of regret that this foul nook could not have been shut off from the Pond this season. When it is accomplished, the Pond will be in good condition for a reservoir.

The water in Fresh Pond reached its lowest point January 1, viz. 5.54, and its highest, April 27, viz. 14.08. The height at this date is 9.30.

The auxiliary pumps, raising water from the Pond to supply the pump-house conduit, continued in use till February 16, when they were no longer needed. They are all in good condition for further service.

Pumping Works.

No repairs have been needed on either the engine-house or coal-shed. An extension of eight feet in length has been added to the horse-shed for the accommodation of the engineer. A suitable fence is required around the engine-house lot and Tudor Park. They have received necessary care, grading the walks and cutting the grass.

Reservoir.

No repairs have been made, and nothing done except to keep the walks graded and grass cut. No indication of any recent movement of the walls is visible. As noted last year, the high wall should receive attention early in the spring, and a separate house should be built for the chronograph, as the records from it now are very imperfect, owing to the dampness at its present location.

High Service.

Extension has been made over Dana Hill, as recommended in my last report, and it became necessary to carry it to the Agassiz and Peabody Museums on Divinity Avenue. Manipulation of the stand-pipe valve three times daily was discontinued at the completion of the high-service system, giving a constant, even pressure on the low service. No complaint of a lack of supply has been received since it went into operation, indicating the complete success of the work. Although the extensions have doubled the number of high-service supplies, the increase of work required of the high-service engine is scarcely perceptible, and a large margin of power is left for future extensions.

There were laid for this service the following lengths of pipe: 1,880 feet of 8-inch from North Avenue and Garden Street through Harvard Square and Harvard Street to Quincy Street; 607 feet of 4-inch in Broadway, from Dana Street east; 914 feet of 4-inch in Linnæan Street, from Avon Hill Street to Lancaster Street (old high-service); 214 feet of 4-inch in Concord Avenue, west from Sparks Street (old high-service); 60 feet of 6-inch in Lambert Avenue, west from blow-off (old high-service); 710 feet of 6-inch and 117 feet of 4-inch in Kirkland Street, from junction of Cambridge Street to Frisbie Place (new high-service); and there were used eleven 4-inch check-valves, five 6-inch, one 10-inch, and one 12-inch check-valve, placed at various points on contour line 58, the grade separating the high and low services, and also two 4-inch gates, two 6-inch, one 10-inch, and one 12-inch gate, making a total of eighteen check-valves and seven gates.

Main Pipe.

Aside from the high-service extensions, main pipes have been laid in the following streets: 60 feet of 4-inch in Parker Street, 95 feet of $1\frac{1}{2}$-inch in Valentine Court, 157 feet of 2-inch in Banks Street Court, 48 feet of 4-inch in Blanche Street, 97 feet of $1\frac{1}{4}$-inch in Hudson Court, 130 feet of 4-inch in Auburn Street, 2,061 feet of 2-inch in Lake View Avenue and Fresh Pond Drive, 100 feet of $1\frac{1}{4}$-inch and 82 feet of 1-inch in New Street, 167

feet of 4-inch in Granite Street, 280 feet of 4-inch in Cushing Street Court, 268 feet of 6-inch in Bridge Street, 165 feet of $1\frac{1}{2}$-inch in Dickinson Street, 101 feet of 6-inch in Appleton Street, 294 feet of 6-inch in Garfield Street, 441 feet of 4-inch in Mercer Street, 3,062 feet of 8-inch in Mount Auburn and Cushing Streets, 95 feet of 6-inch in Mount Auburn Street, 36 feet of 6-inch in Crescent Avenue, 205 feet of 4-inch in Summer Street, 313 feet of 4-inch in Pilgrim Street, 468 feet of 10-inch in Mount Auburn Street (relaid, 6-inch taken up and 10-inch substituted), 317 feet of 4-inch in Clark Street, 547 feet of 6-inch in Henry Street, 29 feet of 6-inch in Western Avenue, 49 feet of 4-inch in Dodge Street, 201 feet of $1\frac{1}{4}$-inch in Dodge Street, 36 feet of 6-inch in Montgomery Street, 72 feet of 4-inch in Madison Street, 36 feet of 6-inch in Sixth Street, 204 feet of 4-inch in Vandine Street, 145 feet of 4-inch in Prentiss Court, 115 feet of 1-inch in Sibley Court, 700 feet of 8-inch in Albany Street, 33 feet of 6-inch in Albany Street, 216 feet of 4-inch in Kirkland Street, 266 feet of 4-inch in Rockingham Street, 167 feet of 4-inch in Otis Street, 254 feet of 4-inch in Kinnaird Street, and 173 feet of 4-inch in Howard Street. 138 feet of 3-inch was taken up, by request of the City Engineer, in Magazine Court, while a sewer was being built, and as it was unfit to relay, 4-inch pipe was substituted; also 39 feet of 3-inch in Walnut Court was taken up, and 4-inch put in its place.

New Supplies.

Three hundred and thirty-four new supplies have been laid during the year, making at this date a total of 8,338. Nine old supplies have been renewed and seventy furnished with sidewalk shut-offs.

Leakage.

Two hundred and forty-six leaks have been stopped: two on 8-inch main, one on 6-inch main, thirteen on 4-inch main, three on 3-inch main, one on $1\frac{1}{2}$-inch pipe, one hundred and eighty-nine on premises, and thirty-seven on supplies in streets.

All the fixtures throughout the city have been inspected once during the year, and those in Ward 3 twice. No inspection of main pipes for leaks has been made since that noted in last report.

Brookline Street Pipe Bridge.

No repairs have been made on the pipe or bridge. October 4, on account of a serious break in the 48-inch water main of the Boston Water Works, the Brighton District being deprived of water, a request was received from the Boston Water Board, through their engineer, Mr. Brackett, for a supply from us to that district, while repairs were being made. The gates on Brookline Street Bridge were at once opened, and water was delivered from eleven o'clock A.M. to six o'clock P.M. The siphon has since been pumped out.

Hydrants.

Twelve new post hydrants have been set during the year and five flush hydrants removed; viz., at corner of Main and Brewery Streets, at corner of Gore and Carson Streets, at Brattle Square and Brattle Street, at corner of Amory and Summer Streets, and at stables Mount Auburn Street. The totals at date are 279 post hydrants and 322 flush hydrants, — 601 in all. There are also five flush hydrants on private premises: viz., two on premises of the Boston and Lowell Railroad Co., Prison Point Street; two on premises of the New England Glass Co., North Street; and one on premises of C. L. Jones & Co., Pearl Street. There are thirteen street reservoirs furnished with supplies.

Forty-one new hydrant-boxes and seventy-five new gate-boxes have been set in place of decayed ones removed.

Pipe Yard.

A strip of land 10,000 square feet in area has been added to the yard. The stable has been painted. The dwelling-house needs interior repairs, and will require shingling and painting the coming season.

Accompanying this report is that of the Engineer at the pumping station, and tables showing the monthly amount of water pumped; the Fresh Pond record of water heights; the locations of fountains, stand-pipes, and meters; the details of main and supply extensions; and the amount of stock on hand.

Respectfully submitted,

HIRAM NEVONS,
Superintendent.

REPORT

OF THE

ENGINEER OF THE PUMPING STATION.

PUMPING STATION, CAMBRIDGE WATER WORKS,
Dec. 1, 1884.

Hiram Nevons, Esq., Superintendent : —

SIR, — I would report the engines and boilers in their usual condition; nothing more than the ordinary repairs have been required during the past year. I would recommend that the tubes be cut out of boilers Nos. 1 and 2, the boilers thoroughly cleaned and examined, and the tubes pieced out and reset. The auxiliary pumping machinery at the Pond continued in operation until February 17, when, the Pond having risen to grade 8.28, it was stopped; it is in perfect condition, and ready to be started when required. The portable engine and boiler have been moved into the new building, and connected. We have now duplicate pumping machinery there of five million gallons capacity daily.

Following will be found a statement of the expenses at the pumping station, with the usual table.

E. C. BROOKS,
Engineer.

Expenses.

$372\frac{1670}{2240}$ tons Cumberland coal @ $5.29	$1,971.79
$321\frac{410}{2240}$ tons Cumberland coal @ $4.77	1,532.04
Oil, waste, packing, etc.	138.00
Tools	8.51
Repairs on engines and boilers	49.75
Repairs on buildings and care of grounds	449.73
Salaries	3,725.00
Total	$7,874.82

Engine Record, Pond Levels, and Rainfall.

Date.	Low-Service Engines.						High-Service Engine.						Total water pumped.	Daily average water pumped.	Total coal consumed.	Daily average coal consumed.	Av'age height of pond.	Rainfall.
	Total pumping time.		Daily average pumping time.		Total water pumped.	Daily average water pumped.	Total pumping time.		Daily average pumping time.		Total water pumped.	Daily average water pumped.						
	Hrs.	Min.	Hrs.	Min.	Gallons.	Gallons.	Hrs.	Min.	Hrs.	Min.	Gallons.	Gallons.	Gallons.	Gallons.	Lbs.	Lbs.	Feet.	Inches.
December, 1883.....	330	00	10	39	71,145,900	2,295,029	330	00	10	39	2,292,491	73,952	73,438,391	2,368,981	130,000	4,194	5.75	2.94
January, 1884.....	357	55	11	33	79,871,700	2,576,506	357	55	11	33	2,384,006	76,903	82,255,706	2,653,409	148,300	4,784	6.18	4.81
February, "	312	35	10	47	67,164,600	2,316,020	312	35	10	47	1,950,106	67,245	69,114,706	2,383,266	116,900	4,031	7.96	6.67
March, "	336	35	10	51	72,917,400	2,352,174	336	35	10	51	2,062,886	66,545	74,980,286	2,418,719	129,000	4,161	10.95	4.91
April, "	310	55	10	22	66,450,600	2,215,020	310	55	10	22	1,807,987	60,269	68,258,587	2,275,286	113,900	3,797	13.86	4.22
May, "	350	00	11	17	78,372,000	2,528,129	350	00	11	17	2,253,984	72,709	80,625,984	2,600,838	129,000	4,161	13.84	3.18
June, "	376	00	12	32	87,090,900	2,903,030	371	10	12	22	4,325,069	144,169	91,415,969	3,047,199	135,700	4,523	13.17	3.79
July, "	374	00	12	04	82,371,600	2,657,148	374	00	12	04	4,868,083	157,035	87,239,683	2,814,183	130,500	4,210	12.52	4.56
August, "	362	20	11	41	77,925,300	2,513,719	362	20	11	41	4,096,896	132,158	82,022,196	2,645,877	128,700	4,152	12.02	4.76
September, "	362	20	12	05	84,492,000	2,816,400	362	20	12	05	4,911,629	163,721	89,403,629	2,980,121	134,600	4,487	11.17	.70
October, "	355	00	11	27	81,399,300	2,625,784	355	00	11	27	4,600,992	148,419	86,000,292	2,774,203	133,600	4,310	10.18	2.90
November, "	332	30	11	05	72,609,900	2,420,330	332	30	11	05	4,003,501	133,450	76,613,401	2,553,780	124,200	4,140	9.51	2.63
Total.....	4,160	10	....	....	921,811,200	.....	4,155	20	....	....	39,557,630	.....	961,368,830	.....	1,554,400	.....	.....	46.07
Daily average....	11	22	....	....	2,518,610	.....	11	21	....	....	108,081	.....	2,626,691	.....	4,247	.....	10.59	.....

ANNUAL REPORT

OF THE

CHIEF ENGINEER OF THE FIRE DEPARTMENT.

CHIEF ENGINEER'S OFFICE, CITY HALL,
CAMBRIDGE, Mass., Dec. 15, 1884.

To his Honor the Mayor and the City Council: —

GENTLEMEN, — In accordance with the requirements of the ordinance governing the Fire Department, I respectfully submit my sixth annual report for the fiscal year ending Nov. 30, 1884.

Membership.

The membership of the department consists of ninety-eight officers and men. Of this number the chief engineer, five engineers of steamers, thirteen drivers of engines, hose, and hook-and-ladder carriages, one chemical engineman, one relief engineer, and three telegraph operators and repairers, devote their whole time to the service of the city; the remaining seventy-four are call men, and are only required to render service on occasion of alarms of fire.

Apparatus.

The apparatus consists of six steam fire-engines (one in reserve, and stationed at the hose-house on Green Street, ready for immediate use), five four-wheeled hose-carriages, one chemical engine, two hook-and-ladder carriages, four fuel-wagons, one hose-pung, one fire-alarm wagon and pung.

The above-named apparatus, so far as can be ascertained by frequent inspection and trial, is in good working order, with the exception of Hose-carriage No. 3; and I would recommend that a hose-wagon be purchased to take the place of said carriage.

The four-wheeled hose-carriage contracted for last year, and built by the Manchester Locomotive Works, of Manchester, N. H., was delivered and accepted by the Committee on Fire Department, and put in service at Engine-House No. 5, on January 26.

An order, passed by the City Council, authorizing the Committee on Fire Department to purchase a horse, wagon, and harness for the use of the Chief Engineer, was complied with, and the same put in service September last.

Hose.

The total amount of 2½-inch hose in charge of this department, and in serviceable condition, is 10,050 feet. During the year 1,000 feet has been purchased and 1,000 feet condemned. There is also 300 feet of ¾-inch rubber hose, and 300 feet of 1½-inch cotton hose, used in connection with the chemical engine, in good condition.

Horses.

There are twenty-four horses used in connection with the apparatus, all of which are in good condition, and with few exceptions are well suited for the work required of them.

Since my last report, four horses have been disposed of on account of lameness and other causes, and one died. Five were purchased to take their places; also one for the use of the Chief Engineer.

Fire-Alarm Telegraph.

This important branch of the service is in good condition, and has worked satisfactorily during the year.

Last March a striker was purchased and placed in the tower of the Baptist Church, Central Square, and connected with the bell, so that firemen and citizens in that locality are now promptly informed of an alarm, and the location of the fire.

In accordance with my previous recommendations, the City Council, after due consideration of the matter, passed an order, which was approved October 7, authorizing the Committee on Fire Department to purchase a ten-circuit repeater, which was ordered of Gamewell & Co., and will soon be placed in position at the battery-room.

I would recommend that a tower be constructed on Engine-House No. 5, Inman Square, and that a bell and bell-striker be procured and placed therein. It is earnestly desired that this addition to the fire alarm should be made. It would enable the firemen in that part of the city to get the alarms promptly, thereby increasing the efficiency of the department.

I would also recommend that additional fire-alarm boxes be purchased and put up in neighborhoods where they are much needed.

Houses.

During the year the Committee on Public Property has made quite extensive repairs on several of the fire stations. The houses occupied by Engines 1, 2, 3, 4, and Chemical 1, have been thoroughly renovated; the ceilings were whitened, walls painted, and other repairs made that were needed in order to put the houses in complete condition. Those of Engine 5 and Hook-and-Ladder 1 are in need of repairs, and should be attended to the coming year.

The house occupied by Hook-and-Ladder No. 2 is in very poor condition, and I would renew my recommendation of last year that a more substantial building be erected.

Fires and Alarms.

I have the pleasure of reporting that the year just closed has been one of remarkable exemption from serious losses by fires, although several fires have occurred in localities where, but for the promptness of the alarm and the alacrity with which the department responded, the losses would have been much greater.

The total number of fires and alarms during the year was eighty; telegraph alarms, sixty-six; still alarms, fourteen. Five alarms were given for fires out of the city, at four of which a portion of the department rendered assistance.

The total amount of losses and insurance, as near as could be ascertained, was: loss, $75,535; insurance, $189,875. The amount of insurance paid was $67,695.64; loss over insurance, $7,839.36.

Appropriations, Receipts, and Expenditures.

The appropriation for this department made at the beginning of the fiscal year was: estimated revenue, $200; appropriation, $59,800; estimated revenue and appropriation, $60,000. The expenditures were $58,138.65, leaving a balance unexpended of $1,861.35. The actual receipts were $706.18.

Appointments and Discharges.

Engine Co. No. 4. John Devlin was appointed hoseman on May 5, and died August 26, after two weeks' illness, of typhoid fever. George F. Tibbetts was appointed to fill the vacancy October 13.

Engine Co. No. 5. Adelbert Garland was appointed hoseman January 11. William H. Crump, hoseman, resigned March 10. Adelbert Garland was discharged for drunkenness March 14, and James F. Glynn and George P. Bannister were appointed to fill the vacancies April 7.

Hook-and-Ladder Co. No. 2. Joseph E. Chick resigned as assistant foreman February 1. John Gaughan was appointed to fill the vacancy same date, and was reduced to ladderman May 7. James F. Dalton was appointed assistant foreman to fill the vacancy May 7. George H. Taylor, ladderman, resigned June 30, and John B. McGuire was appointed to fill the vacancy August 4.

Accidents.

Mrs. Mary E. Buxton, residing at 305 Cambridge Street, was fatally burned on the evening of Thursday, April 10, by her clothes having taken fire, caused by the upsetting and breaking of a kerosene lamp, also setting fire to the house and causing an alarm from Box 31.

John H. Walker, driver of Engine No. 2, in responding to an alarm of fire on May 13, severely sprained his leg, which prevented him from doing duty for several days.

Walter Baker, hoseman of Engine Co. No. 3, on duty at a fire June 30, received severe injury to his hand while running a line of hose.

By the breaking of a kerosene lamp on the night of July 11, Mrs. Mary Roach, who resided at 103 Spruce Street, was fatally

burned by her clothes taking fire, and an alarm was from Box 73.

Timothy J. Mahoney, hoseman of Engine Co. No. 3, received several cuts and bruises about the head and body while on duty July 19, caused by falling timbers. Other members received slight injuries.

John K. Perkins, hoseman of Engine Co. No. 1, was overcome by heat and smoke while on duty September 22, and was taken to his home, where he was confined for several days.

The following members of the department were injured at the burning of the Cambridge Railroad stable on November 23: James P. Ewell, of Hook-and-Ladder No. 1, struck on the head by falling slate, causing concussion of the brain; Andrew Burk, fractured a small bone in right ankle, Timothy Ryan, severe sprain of left ankle, and otherwise injured about the body, and Elbridge L. Wheeler, severe sprain of left ankle, caused by their falling in with the floor, on which they were at work removing burning hay, — all three of Hook-and-Ladder No. 2.

Acknowledgments.

In closing this report, I desire to return my thanks to the Honorable Mayor, the City Council, and the Joint Committee on Fire Department, for their hearty concurrence in all matters which have been suggested by me for the welfare and efficiency of the department.

To Chief Engineer Hopkins, of Somerville, and the companies under his command, I desire to return thanks for the prompt assistance rendered at fires in this city during the year; also to that portion of the Boston Fire Department located in the Brighton District, for assistance rendered at the Cambridge Railroad stable on November 23.

The Board of Engineers and the officers and members of the several companies are also entitled to my thanks for their prompt performance of duty.

Respectfully submitted,

THOMAS J. CASEY,
Chief Engineer.

APPENDIX.

Joint Standing Committee on Fire Department.

ALDERMEN . . . . . Anderson and Lindsey.
COUNCILMEN . . . . . Henderson, Doyle, and White.

Board of Engineers.

Name.	Residence.	Rank.	Age.
Thomas J. Casey	173 Cambridge Street	Chief Engineer	51
Nathaniel W. Bunker	6 Beech Street . .	1st Assistant .	41
Charles W. Brackett	133 Mt. Auburn Street	2d Assistant .	48
William B. Cade	27 Park Street . . .	3d Assistant .	50
Nathaniel W. Bunker		Secretary . .	

Engine Company No. 1.

House, Brattle Square.

Name.	Rank.	Age.	No. of Badge.
William H. Emory	Foreman	51	23
John H. Brown	Assistant Foreman . .	33	24
Edwin E. Priest	Engineer	47	1
James Jefferson	Fireman	31	25
Hiram W. Hooker	Driver of engine . . .	46	2
Charles R. Hooker	Driver of hose-carriage .	40	3
John L. Jones, Jr.	Hoseman	33	26
John K. Perkins	"	34	27
Daniel E. Shea	"	28	28
William A. Carlin	"	33	29
James McLean	"	24	30
Robert L. Williams	"	35	31

Engine Company No. 2.

House, Main Street, near Winsor.

Name.	Rank.	Age.	No. of Badge.
James Cunningham	Foreman	42	32
Arthur C. Day	Assistant Foreman	47	33
Thomas Wiseman	Engineer	40	4
William E. Cade	Fireman	25	34
John H. Walker	Driver of engine	55	5
Albert F. Sawyer	Driver of hose-carriage	41	6
Benjamin D. Foss	Hoseman	48	35
John McCarthy	"	34	36
John Haley	"	30	37
Charles H. Chapman	"	31	38
Charles E. Snow	"	43	39
John G. Hicks	"	37	40

Engine Company No. 3.

House, Fourth Street, near Cambridge.

Name.	Rank.	Age.	No. of Badge.
William F. Newman	Foreman	38	43
Edwin Winward	Assistant Foreman	40	44
Hiram Blood	Engineer	52	7
Elliot E. Alley	Fireman	48	45
Peter F. McSorley	Driver of engine	25	8
Lorenzo H. Dale	Driver of hose-carriage	42	9
John Casey	Hoseman	34	41
Walter Baker	"	30	42
Timothy J. Mahoney	"	36	46
William H. Murray	"	33	48
Louis J. Stanger	"	30	47
John S. Dooris	"	39	49

Engine Company No. 4.

House, North Avenue, near Russell.

Name.	Rank.	Age.	No. of Badge.
Edgar H. Locke	Foreman	37	53
William H. Hanna	Assistant Foreman	38	52
John E. Ricker	Engineer	40	10
Benjamin Young	Fireman	40	57
George E. Muzzey	Driver of engine	42	11
Sylvanus G. Griffin	Driver of hose-carriage	37	12
John H. Griffin	Hoseman	31	55
Arthur C. Griffin	"	34	58
Josiah P. Parsons	"	36	56
George W. Gilman	"	27	54
Edward A. Hurd	"	34	51
George F. Tibbitts	"	44	50

Engine Company No. 5.

House, Inman Square.

Name.	Rank.	Age.	No. of Badge.
Francis P. Scanlan	Foreman	38	59
Conrad D. Kinnear	Assistant Foreman	45	60
Charles E. Conner	Engineer	34	13
George W. McIntire	Fireman	29	61
Joseph P. Cartwright	Driver of engine	48	14
Francis P. Carr	Driver of hose-carriage	40	15
John Fitzgerald	Hoseman	37	62
Frank C. Mullett	"	32	63
William T. King	"	28	64
Hugh T. Barker	"	33	66
James F. Glynn	"	34	65
George P. Bannister	"	24	67

Chemical Engine Company No. 1.

House, Western Avenue.

Name.	Rank.	Age.	No. of Badge.
Lewis C. Clark	Engineman	40	17
William H. Foss	Driver	45	18

Relief Engineer.

Name.	Rank.	Age.	No. of Badge.
William H. Lydston	Engineer	37	16

Hook-and-Ladder Company No. 1.

House, Brattle Square.

Name.	Rank.	Age.	No. of Badge.
Charles Emerson	Foreman	39	69
John T. Mahaffy	Assistant Foreman	39	72
Albert S. Benson	Driver	40	19
James P. Ewell	Ladderman	48	75
Charles H. Waite	"	38	73
William Parks	"	40	77
Charles A. Sharon	"	35	76
Joseph B. Farmer	"	46	74
Warren H. Dow	"	34	71
William R. Mitchell	"	32	78
John A. Bartlett	"	51	79
John A. McDermott	"	34	80
James H. Furfey	"	27	68
Thomas H. McCoy	"	33	70

Hook-and-Ladder Company No. 2.

House, Cambridge Street, corner Portland.

Name.	Rank.	Age.	No. of Badge.
Thomas L. Hunter	Foreman	44	93
James F. Dalton	Assistant Foreman	47	81
Jeremiah R. Hobbs	Driver	37	20
Orville W. Van Duzee	Ladderman	38	82
Joseph E. Chick	"	34	87
William Haley	"	36	86
Elbridge L. Wheeler	"	40	91
Timothy Ryan	"	37	85
John Gaughan	"	42	92
Charles E. McMeniman	"	32	88
Albert Smith	"	30	90
Thomas Mimnaugh	"	31	83
Andrew Burk	"	41	89
John B. McGuire	"	25	84

Fire-Alarm Telegraph.

Battery Room, Brattle-Square Building.

Name.	Rank.	Age.
George J. Blaisdell	Assistant Superintendent	40
Arthur W. Daniels	Telegraph Operator	31
David J. Campbell	Telegraph Operator	37

FIRES AND ALARMS

From Dec. 1, 1883, to Dec. 1, 1884.

DECEMBER.

Monday, Dec. 3, 9.55 A.M. Box 29.

No. 40 Winsor Street. Owned by C. P. & J. I. Bowditch. Loss, $418. Insurance, $3,000. Occupied by Lewis Aaron, as dwelling. Loss, $15. Insurance, $300. Occupied by F. C. Parker as dwelling. Loss, $30. Insurance, $300. Cause, defective chimney.

Monday, Dec. 3, 12.58 P.M. Box 35.

No. 84 Prospect Street. Owned by E. W. Cook. Occupied by Francis Josselyn as dwelling. Loss trifling. Originated in a closet. Cause, child playing with matches.

Tuesday, Dec. 4, 8.28 P.M. Box 32.

Cambridge Street. Smoke mistaken for fire.

Sunday, Dec. 9, 8.53 P.M. Box 4.

Fire in Somerville. J. P. Squire & Co.'s smoke-house. Assistance rendered.

Friday, Dec. 14, 11.39 A.M. Box 9.

No. 24 Cambridge Street. Owned and occupied by O. N. Kenerson for storage. Loss, $1,000. No insurance. Occupied by P. J. Callahan as horseshoer. Loss, $150. No insurance. No. 22, occupied by T. A. Eames as tool-house. Loss, $50. No insurance. No. 20, owned and occupied by Timothy Sullivan as stable. Loss, $225. Insurance, $100. No. 18, owned and occupied by G. W. Felt as blacksmith. Loss, $32. Insurance, $2,200. No. 26, owned and occupied by U. J. Dailey as stable. Loss, $100. No insurance. Owned by Munroe estate. Loss, $50. Insurance, $750. Occupied by E. D. Sawyer & Co. as lumber shed. Originated in blacksmith's shop. Cause, unknown.

Friday, Dec. 14, 11.49 A.M. Box 9.

No. 25 Third Street. Owned by A. B. Adams. Occupied by Thomas Buckley as dwelling. Loss trifling. Originated in clothes-closet. Cause, unknown.

Saturday, Dec. 15, 10.42 P.M. Box 71.

No. 387 North Avenue. Owned by M. & G. E. Richardson. Loss, $100. Insurance, $100. Occupied by A. D. Cleveland as stable. Loss, $500. Insurance, $500. No. 385, owned by M. & G. E. Richardson. Loss, $50. Insurance, $1,000. Occupied by Hannah Gilcrease as dwelling. Originated in stable. Cause, unknown.

Sunday, Dec. 23, 11.20 A.M. Still.

No. 75 Franklin Street. Owned by Hancock Heirs. Loss, $5. Insurance, $900. Occupied by John Hancock as dwelling. Cause, defective chimney.

JANUARY.

SATURDAY, Jan. 5, 12.32 P.M. Box 35.

No. 20 Suffolk Street. Owned by Lamson Heirs. Loss, $50. Insurance, $1,500. Occupied by M. W. Himeon as dwelling. Cause, defective chimney.

WEDNESDAY, Jan. 23, 5.05 A.M. Still.

No. 91 Tremont Street. Owned by August Myers. Occupied by several families as dwellings. No loss. Cause, soot in chimney taking fire.

FEBRUARY.

MONDAY, Feb. 18, 1.30 P.M. Still.

No. 161 Cambridge Street. Owned by G. W. Swett. Loss, $110. Insurance, $7,000. Occupied by H. A. Miner, apothecary. Loss, $525. Insurance, $2,500. Occupied by J. A. Rice, jeweller. Loss, $25. Insurance, $300. Cause, ignition of ether.

TUESDAY, Feb. 19, 5.07 P.M. Box 12.

Water Street. Owned by Nash, Spaulding & Co. Occupied by Revere Sugar Refinery as gas-house. Loss, $80. No insurance. Cause, unknown.

SUNDAY, Feb. 24, 6.58 P.M. Box 25.

No. 531 Main Street. Owned by George Bird. Loss, $300. Insurance, $2,000. Occupied by James Cox, printer. Loss, $500. Insurance, $3,000. Occupied by H. E. Gay, hair-dresser. Loss, $30. No insurance. No. 533, occupied by Thomas Sheehan, shoe dealer. Loss, $100. Insurance, $2,000. No. 535, occupied by Russell & Marsh, furniture dealers. Loss, $125. Insurance, $2,000. No. 529, owned by C. W. Oxford. Loss, $80. Insurance, $1,500. Occupied by Oxford Brothers, furniture dealers. Loss, $40. Insurance, $3,000. Originated in printing-office. Cause, incendiary.

MARCH.

MONDAY, March 3, 3.40 A.M. Still.

Fire in Somerville. Engine Co. No. 5 rendered assistance.

SUNDAY, March 9, 2.21 A.M. Box 12.

No. 12 Gore Street. Owned by James Duff. Occupied by James Duff & Son, spring-makers. Loss, $85. Insurance, $1,500. Cause, hot iron in sawdust.

TUESDAY, March 11, 2.22 P.M. Box 82.

No. 22 Lake View Avenue. Owned by William Smith. Occupied by Edwin Holbrook as dwelling. No loss. Cause, defective flue.

MONDAY, March 17, 3 P.M. Still.

No. 19 Pleasant Street. Owned by J. A. Jacobs. Occupied by Sarah S. Jacobs as dwelling. No loss. Cause, soot in chimney taking fire.

APRIL.

THURSDAY, April 10, 10.57 A.M. Box 7.

No. 39 Charles Street. Owned by J. L. O'Brien. Loss, $45. Insurance, $1,200. Occupied by James Powers as dwelling. Originated in attic. Cause, child playing with matches.

THURSDAY, April 10, 6.56 P.M. Box 31.

No. 305 Cambridge Street. Owned by Thomas David. Loss, $6. Insurance, $2,000. Occupied by Marshall Buxton as dwelling. Cause, upsetting of kerosene lamp.

TUESDAY, April 22, 4.30 P.M. Still.

No. 14 South Street. Owned by David Campbell. Loss, $40. Insurance, $1,500. Occupied by James McClennan as dwelling. Cause, unknown.

WEDNESDAY, April 23, 5.16 P.M. Box 2.

Boston & Lowell R. R. Yard. Freight-car owned by National Car Co. Loss, $75. Insurance, $300. Occupied by Lord & Webster with a freight of straw. Loss, $50. Insurance, $210. Cause, sparks from locomotive.

THURSDAY, April 24, 9.06 P.M. Box 26.

State Street. Owned by D. C. Smart. Loss, $94. Insurance, $1,500. Occupied by William Woodland for wood-turning. Loss, $225. Insurance, $1,400. Occupied by L. Bullock & Co., cabinet-makers. Loss, $223. Insurance, $500. Occupied by H. A. Scranton, wood-worker. Loss, $50. Insurance, $1,250. Occupied by J. B. Wiggin for artist's supplies. Loss, $100. No insurance. Originated in third story. Cause, unknown.

SUNDAY, April 27, 8.24 P.M. Box 74.

No. 54 Bolton Street. Owned and occupied by Ann Mansfield as dwelling. Loss, $40. Insurance, $400. Cause, explosion of kerosene lamp.

MAY.

THURSDAY, May 1, 9.40 A.M. Still.

Green Street. F. A. Kennedy & Co., bakery. Cause, accidental automatic alarm.

FRIDAY, May 2, 6.56, P.M. Box 61.

No. 24 Boylston Street. Owned by J. M. Hilton. Unoccupied dwelling. No loss. Cause, sparks from roofers' furnace.

SATURDAY, May 3, 7.04, 7.08, P. M. Box 9.

No. 12 Gore Street. Owned by James Duff. Loss, $1,605. Insurance, $4,200. Occupied by James Duff & Son, spring-makers. Loss, $350. Insurance, $1,415. Occupied by Howard Clapp, machinist. Loss, $165. Insurance, $2,000. Occupied by Danforth Kinnear, picture-framer. Loss, $811. Insurance, $1,000. Occupied by M. J. Hirl, brushmaker. Loss, $50. No insurance. Originated in second story. Cause, unknown.

SUNDAY, May 4, 12.24 A.M. Box 9.

No. 12 Gore Street. Rekindling of fire. Alarm needless.

Monday, May 12, 11.10 A.M. Box 6.

West Boston Bridge. Load of hay, owned by Thomas Parker. Loss, $25. No insurance. Supposed cause, pipe-smoking.

Tuesday, May 13, 7 A.M. Box 42.

No. 27 Grigg Street. Owned by Horace Hews. Occupied by William Johnson as dwelling. No loss. Originated in cellar. Cause, unknown.

JUNE.

Wednesday, June 4, 8.45 P.M. Box 36.

No. 658 Main Street. Owned by J. H. & J. P. Thayer Heirs. Occupied by Thayer & Co. as painters. Loss, $27. Insurance, $1,400. Originated in barrel of lamp-black. Cause, spontaneous combustion.

Saturday, June 7, 11.16 A.M. Box 75.

Garden Street. Owned and occupied by M. W. Sands as brick-shed. Loss, $125. No insurance. Cause, sparks from kiln.

Sunday, June 8, 8.18 A.M. Box 6.

Third Street. Owned by Seavey & Co. Occupied by Boston Stamping Works as tin-ware manufactory. Loss trifling. Originated on outside of building. Cause, unknown.

Thursday, June 12, 8.41 P.M. Box 14.

Potter Street. Owned and occupied by American Rubber Co. as rubber-goods manufactory. Loss trifling. Cause, ignition of naphtha.

Saturday, June 14, 8.05 P.M. Box 32.

No. 395 Cambridge Street. Owned by J. P. Squire. Occupied by T. J. Shea as liquor saloon. Loss trifling. Cause, explosion of kerosene lamp.

Tuesday, June 17, 1.43 P.M. Still.

No. 17 Farwell Place. Owned by Charles Moore. Loss, $28. Insurance, $2,000. Occupied by D. K. Dinsmore as dwelling. Originated on roof. Cause, sparks from chimney.

Friday, June 20, 4.01 P.M. Box 4.

Somerville. Burning of Walker's Oil Works. Assistance rendered.

Friday, June 27, 7.11 P.M. Box 7.

No. 123 Third Street. Owned by Patrick McKenna. Occupied by several families as dwellings. Cause, smoking chimney.

Saturday, June 28, 3.45 A.M. Still.

Blackstone Street. Owned and occupied by H. O. Houghton & Co. as printers. Cause, accidental automatic alarm.

Monday, June 30, 4.33 A.M. Box 29.

No. 191 Harvard Street. Owned by Uriah Billings. Loss, $650. Insurance, $2,500. Occupied by H. M. Tibbetts as dwelling. Loss, $40. Insurance, $500. Originated in clothes-closet. Cause, unknown.

MONDAY, June 30, 10.15 P.M. Still.

No. 624 Main Street. Owned by D. U. Chamberlin. Unoccupied. No loss. Originated in barrel of sweepings. Cause, spontaneous combustion.

JULY.

THURSDAY, July 3, 5 P.M. Box 26.

State Street. Owned and occupied by M. E. Rideout as stable. Loss trifling. Cause, sparks from chimney.

FRIDAY, July 4, 10.7 A.M. Box 37.

No. 76 Magazine Street. Owned by Cottage Street M. E. Church. Occupied by S. W. Eldridge as dwelling. Loss trifling. Originated on roof. Cause, fire-crackers.

FRIDAY, July 4, 10.52 A.M. Box 9.

No. 69 Cambridge Street. Owned by M. E. Myers. Occupied by H. E. Litchfield as dwelling. Loss trifling. Originated on roof. Cause, fire-crackers.

FRIDAY, July 4, 11.12 A.M. Box 92.

Vineyard Street. Owned by Hittinger Estate. Loss, $200. No insurance. Occupied by two families as dwellings. Originated on roof. Cause, fire-crackers.

FRIDAY, July 4, 12.18 P.M. Box 64.

Raymond Street. Owned by Harvard College. Loss, $300. No insurance. Occupied by D. E. Ramsey as dwelling. Originated on roof. Cause, fire-crackers.

FRIDAY, July 4, 12.52 P.M. Box 28.

No. 19 Webster Avenue. Owned by Patrick Shea. Loss, $135. Insurance, $500. Occupied by William McCarty as dwelling. Originated on roof. Cause, fire-crackers.

FRIDAY, July 4, 7.56 P.M. Box 17.

No. 6 Hastings Street. Owned and occupied by John Mooney as dwelling. Loss trifling. Originated on roof. Cause, fire-crackers.

FRIDAY, July 4, 8.40 P.M. Still.

No. 65 Pearl Street. Owned and occupied by Alfred Whitney as dwelling. Loss trifling. Originated on roof. Cause, fire-crackers.

MONDAY, July 7, 5.09 P.M. Box 41.

No. 8 Laurel Street. Owned by Joseph Scarlet. Occupied by Sarah Bennett as dwelling. Loss trifling. Originated on roof. Cause, fire-crackers.

FRIDAY, July 11, 8.22 P.M. Box 73.

No. 103 Spruce Street. Owned and occupied by John Roach as dwelling. Cause, breaking of kerosene lamp. Alarm needless.

SATURDAY, July 19, 5.29 P.M. Box 28.

No. 126 Portland Street. Owned by Cambridge Rolling-Mill Corporation. Occupied by Gilmore & Eustis as rolling-mill. Loss, $29,007. Insurance, $47,500. No. 131, owned and occupied by John Hillery as dwelling. Loss, $14. Insurance, $1,000. Originated in rolling-mill. Cause, hot coal setting fire to wood-work.

SATURDAY, July 19, 6.07 P.M. Box 43.

No. 35 Cowperthwaite Street. Owned by Catherine Lovett. Occupied by Thomas Hart as dwelling. Loss trifling. Originated in bureau drawer. Cause, unknown.

SATURDAY, July 19, 7.07 P.M. Box 43.

No. 35 Cowperthwaite Street. Owned by Catherine Lovett. Loss, $45. Insurance, $1,000. Occupied by Thomas Hart as dwelling. Originated in bedroom. Cause, unknown.

WEDNESDAY, July 23, 11.15 A.M. Box 6.

Third Street. Owned and occupied by Cambridge Gas-Light Co. as coal-shed. Loss trifling. Cause, sparks from hoisting-engine.

SATURDAY, July 26, 10.05 P.M. Box 59.

No. 9 Brattle Street. Owned by W. L. Whitney. Occupied by David Brewer as provision store. Loss, $40. Insurance, $1,500. Cause, netting taking fire from gas-light.

THURSDAY, July 31, 7.31 P.M. Box 25.

No. 523 Main Street. Owned by D. A. Buckley, and occupied as fruit store. Loss trifling. Cause, netting in window taking fire.

AUGUST.

THURSDAY, Aug. 14, 6.58 P.M. Box 12.

No. 17 Winter Street. Owned and occupied by Richard Whoriskey as dwelling. Loss trifling. Originated in bedroom. Cause, careless use of matches.

MONDAY, Aug. 18, 12.09 A.M. Box 61.

No. 26 Boylston Street. Owned by H. D. Trask. Occupied by Catherine Kivlan as dwelling. Cause, kerosene stove taking fire. Alarm needless.

WEDNESDAY, Aug. 27, 10.44 A.M. Box 72.

Cedar Street. Owned by J. F. O'Brien. Occupied by several families as dwellings. No loss. Cause, soot in chimney taking fire.

SEPTEMBER.

TUESDAY, Sept. 16, 9.01 P.M. Box 64.

No. 26 Wallace Street. Owned and occupied by A. W. Stearns as dwelling. Loss, $1,518. Insurance, $2,000. No. 24, owned by M. J. Sands. Loss, $47. Insurance, $2,500. Occupied by Mrs. J. L. Sands as dwelling. Originated in cellar of No. 26. Cause, supposed to have been set by boys with torches.

MONDAY, Sept. 22, 12.58 P.M. Box 49.

Somerville. Burning of Middlesex Bleachery. Assistance called for.

OCTOBER.

FRIDAY, Oct. 3, 3.15, 3.20, 3.27 A.M. Box 26.

State Street. Owned and occupied by M. E. Rideout as planing and moulding mill. Loss, $3,800. Insurance, $10,000. Occupied by Cambridge Box Co., box-makers. Loss, $200. No insurance. Occupied by Wood Brothers, piano action and key makers. Loss, $450. Insurance, $2,000. Occupied by Hill Brothers, sash and door makers. Loss, $100. No insurance. Occupied by Graves & Phelps, cabinetmakers. Loss, $400. Insurance, $1,500. Occupied by Steadman & Co., as musical instrument string manufactory. Loss, $810. Insurance, $3,250. Occupied by Postawka & Co. as piano taboret manufacturers. Loss, $50. No insurance. Originated in cellar. Cause, unknown.

SATURDAY, Oct. 4, 3.07 A.M. Box 32.

No. 389 Cambridge Street (rear). Owned and occupied by Cornelius White for storage of rags, and stable. Loss, $6,000. Insurance, $3,800. Nos. 379 to 387 Cambridge Street. Owned by Cornelius White. Loss, $283. Insurance, $3,500. Occupied as tin-shop, grocery, and tenements. No. 172 Columbia Street (rear). Owned by J. P. Squire. Loss, $1,062. Insurance, $3,000. Occupied by several families as dwellings. No 171 Winsor Street (rear). Owned by J. P. Squire. Loss, $330. Insurance, $1,000. Occupied by Joseph Silva as dwelling. Originated in rags. Supposed cause, incendiary.

SUNDAY, Oct. 5, 3.05, 3.13 A.M. Boxes 16 and 116.

No. 135 Broadway. Owned by E. B. Phillips. Loss, $315. Insurance, $1,500. Occupied by Standard Turning Works. Loss, $75. No insurance. Originated in oily rags. Cause, spontaneous combustion.

FRIDAY, Oct. 10, 8.15 A.M. Box 13.

No. 104 Cambridge Street. Owned by Mrs. E. E. Davis. Loss, $100. Insurance, $4,000. Occupied by E. W. Cook as dwelling. Originated in shed. Supposed cause, child playing with matches.

SATURDAY, Oct. 11, 9.45 A.M. Box 32.

No. 173 Elm Street. Owned by Malcolm McLean. Loss, $160. Insurance, $3,500. Occupied by several families as dwellings. Cause, defective flue.

MONDAY, Oct. 13, 7.05 P.M. Box 74.

No. 64 Dublin Street (rear). Owned and occupied by E. De Rosay & Son as stable. Loss, $1,200. No insurance. Supposed cause, incendiary.

MONDAY, Oct. 27, 10.45 P.M. Still.

Boylston Street. A stack of salt hay owned by Michael Crowley. Loss, $30. No insurance. Cause, incendiary.

NOVEMBER.

WEDNESDAY, Nov. 5, 1.55 A.M. Box 78.

Garden Street. Owned by Samuel Bigelow. Loss, $50. No insurance. Occupied by John Brogan as barn. Loss, $125. No insurance. Cause, incendiary.

TUESDAY, Nov. 11, 3.13 P.M. Box 73.

Jackson Street. Owned and occupied by Edward Boardman as dwelling. Loss, $1,000. Insurance, $800. Occupied by John Riley and Jane Braslin as dwellings. Loss, $100. No insurance. Cause, a lighted match thrown among kindling-wood.

THURSDAY, Nov. 20, 9.30 P.M. Box 32.

No. 414 Cambridge Street. Owned and occupied by Thomas Devens as coffin ware-room. Loss, trifling. Originated in cellar. Cause, unknown.

SATURDAY, Nov. 22, 10.51 P.M. Box 83.

Fresh Pond Lane. Owned by A. T. Keen. Loss, $300. No insurance. Occupied by Patrick Carney as barn. Loss, $700. No insurance. Supposed cause, incendiary.

SUNDAY, Nov. 23, 10.40, 10.43 A.M. Box 61.

Murray Street. Owned and occupied by Cambridge Railroad Co. as stable. Loss, $16,850. Insurance, $33,000. Originated in hay-loft. Cause, unknown.

TUESDAY, Nov. 25, 10 A.M. Still.

No. 56 Gore Street. Owned by Lorenzo Marrett. Loss, $40. Insurance, $2,000. Occupied by Henry Osthues as dwelling. Loss, $100. No insurance. Originated in closet. Cause, child playing with matches.

THURSDAY, Nov. 27, 10.10 P.M. Box 68.

Fire in Somerville, near Cambridge line. Alarm needless.

HYDRANTS.

Ward One.

Appleton Street, corner Highland.
Ash Street, corner Acacia.
Baldwin Street, corner Emmons Place.
Banks Street, corner Flagg.
Banks Street, corner Cowperthwaite.
Banks Street, corner Grant.
Bow Street, corner Linden (post).
Boylston Street, corner Winthrop (post).
Boylston Street, corner Eliot (post).
Brattle Street, opposite the estates of Messrs. Longfellow and Hastings.
Brattle Street, corner Ash.
Brattle Street, corner Hilliard.
Brattle Street, opposite University Press (post).
Brattle Street, corner Lowell.
Brattle Street, corner Fresh Pond Lane.
Brattle Street, opposite Mount Auburn greenhouse.
Brattle Street, front of Mrs. Wyeth's estate.
Brattle Street, corner Willard.
Brattle Street, corner Story.
Brattle Street, corner Channing.
Brattle Street, corner Lake View Avenue.
Brattle Street, corner Hawthorn (post).
Brattle Street, near Boylston (post).
Broadway, junction Cambridge Street.
Broadway, near junction Cambridge Street (post).
Broadway, corner Prescott Street.
Broadway, corner Trowbridge Street.
Broadway, corner Quincy Street.
Broadway, corner Ware Street.
Broadway, corner Ellery Street.
Buckingham Street, opposite Stevens's barn.
Buckingham Street, corner Concord Avenue (post).
Cambridge Street, corner Trowbridge.
Cambridge Street, corner Sumner.
Cambridge Street, front of Scientific School (post).
Cambridge Street, corner Quincy (post).
Cambridge Street, opposite Felton (post).
Cambridge Street, corner Ellery (post).
Chauncy Street, near Garden (post).
Chauncy Street, corner Langdon.
Church Street, corner Palmer.
Concord Avenue, corner Sparks Street.
Concord Avenue, opposite Craigie Street.
Concord Avenue, corner Follen Street (post).
Concord Avenue, corner Sparks Street (post).
Coolidge Avenue, between Mt. Auburn Street and Cambridge Cemetery gate (2 posts).
Craigie Street, midway.
Craigie Street, near corner Sparks.
Cushing Street, opposite Cushing Place (post).
Cushing Street, southerly end (post).
De Wolf Street, near Cowperthwaite.
Divinity Avenue, opposite Museum.
Dunster Street, corner South.
Dunster Street, corner Mt. Auburn.
Dunster Street, near Harvard Square (post).
Eliot Street, in elbow (post).
Eliot Street, corner Winthrop (post).
Ellery Street, corner Main.
Ellery Street, east side, midway between Broadway and Cambridge Street.
Elmwood Avenue, midway (post).
Everett Street, south side, midway between North Avenue and Oxford Street.
Fayerweather Street, corner Brattle.
Fayerweather Street, opposite Reservoir.
Foster Street, corner Foster Place (post).
Garden Street, near Chauncy (post).
Garden Street, corner Mason.

Garden Street, corner Wallace.
Grant Street, corner De Wolf.
Harvard Square, opposite Charles River Bank (post).
Harvard Street, junction Main (post).
Harvard Street, corner Remington.
Harvard Street, opposite Harvard Block (post).
Harvard Street, opposite Linden (post).
Harvard College grounds (three posts).
Hawthorn Street, corner Acacia (post).
Holworthy Street, opposite school-house (post).
Holworthy Street, southerly end (post).
Kirkland Street, corner Baldwin.
Kirkland Street, corner Trowbridge.
Kirkland Street, corner Irving.
Kirkland Street, corner Sumner.
Kirkland Street, corner Quincy.
Kirkland Street, opposite Memorial Hall.
Lake View Avenue, 500 feet from Brattle Street.
Lake View Avenue, near Brattle Street (post).
Lake View Avenue, corner Huron Street (post).
Lake View Avenue, on hill (post).
Lake View Avenue, near engine-house (post).
Langdon Street, in elbow (post).
Locust Street, corner Holworthy (post).
Main Street, corner Trowbridge.
Main Street, near Baptist Church.
Mellen Street, corner Oxford.
Mill Street, corner Holyoke (post).
Mill Street, corner Charles River.
Mt. Auburn Street, corner Brighton (post).
Mt. Auburn Street, opposite Athens.
Mt. Auburn and Bow Streets.
Mt. Auburn Street, opposite De Wolf.
Mt. Auburn Street, corner Willard (post).
Mt. Auburn Street, corner Sparks (post).
Mt. Auburn Street, opposite McDonald's marble works.
Mt. Auburn Street, opposite railroad stables (post).
Mt. Auburn Street, near Lowell (post).
Mt. Auburn Street, corner Dunster (post).
Mt. Auburn Street, corner Holyoke (post).
Mt. Auburn Street, corner Athens (post).
Mt. Auburn Street, corner Banks (post).
Mt. Auburn Street, corner De Wolf (post).
Mt. Auburn Street, corner Story (post).
Mt. Auburn Street, corner Hilliard (post).
Mt. Auburn Street, opposite City Building (post).
Mt. Auburn Street, opposite Brewer (post).
Mt. Auburn Street, corner Auburn Place (post).
Mt. Auburn street, opposite Bath (post).
Mt. Auburn Street, near Coolidge Lane (post).
Mt. Auburn Street, corner Elmwood Avenue (post).
Mt. Auburn Street, corner Channing (post).
Murray Street, near Charles River.
Murray Street, corner Lyman (post).
North Avenue, corner Chauncy Street.
North Avenue, corner Shepard Street (post).
North Avenue, corner Holmes Place.
North Avenue, corner Jarvis Street.
North Avenue, front of burial-ground (post).
North Avenue, corner Church Street.
North Avenue, corner Garden Street (post).
Oxford Street, near Jarvis.
Oxford Street, corner Everett.
Phillips Place, corner Berkeley Street.
Prescott Street, corner Harvard.
Prescott Street, between Harvard Street and Broadway (post).
Putnam Avenue, corner Western Avenue.
Putnam Avenue, between Mt. Auburn and Main Streets (post).
Putnam Avenue, corner Flagg Street (post).
Putnam Avenue, opposite Putnam Court (post).
Putnam Avenue, near Hews Street (post).
Putnam Avenue, corner Sands Street (post).
Quincy Street, midway between Harvard and Broadway (post).

Sands Street, opposite planing-mill.
South Street, corner Dunster (post).
Sparks Street, corner Vassal Lane (post).
Sparks Street, corner Foster (post).
Sparks Street, opposite Charles T. Russell's (post).
Trowbridge Street, midway between Main and Harvard (post).
Waterhouse Street, opposite Concord Avenue (post).
Waterhouse Street, opposite Follen (post).
Wendell Street, near Carver (post).
Wendell Street, midway between North Avenue and Oxford Street (post).
Willard Street, corner Foster (post).
Worthington Street, near engine-house of Water Works (post).

Ward Two.

Amory Street, corner Summer (post).
Antrim Street, near Broadway.
Antrim Street, near Cambridge (post).
Antrim Street, midway (post).
Austin Street, corner Essex (post).
Austin Street, corner Prospect (post).
Austin Street, corner Temple (post).
Bigelow Street, midway between Main and Harvard.
Brewery Street, near Hastings (post).
Bristol Street, corner Portland (post).
Broadway, corner Highland Avenue.
Broadway, corner Hancock Street.
Broadway, corner Antrim Street.
Broadway, corner Tremont Street (post).
Broadway, corner Elm Street.
Broadway, corner Pelham Street.
Broadway, corner Dana Street.
Broadway, corner Ellsworth Avenue.
Broadway, corner Fayette Street.
Broadway, corner Amory Street.
Broadway, corner Norfolk Street.
Broadway, corner Boardman Street.
Broadway, opposite Thayer's Laboratory (post).
Broadway, near Broadway House.
Broadway, corner Clark Street (post).
Broadway, corner Third Street (post).
Broadway, corner Davis Street (post).
Broadway, corner Brewery Street (post).
Broadway, opposite Mason & Hamlin's building (post).
Broadway, near Sixth Street (post).
Broadway, corner Pioneer Street (post).
Cambridge Street, corner Harding.
Cambridge Street, corner Norfolk.
Cambridge Street, corner Willow.
Cambridge Street, corner Prospect (post).
Cambridge Street, corner Tremont.
Cambridge Street, opposite Fayette.
Cambridge Street, corner Springfield.
Cambridge Street, opposite head of Maple Avenue.
Cambridge Street, corner McCabe (post).
Cambridge Street, corner Elm (post).
Cambridge Street, corner Winsor (post).
Cambridge Street, near Mr. Rafferty's house (post).
Cambridge Street, nearly opposite Ellsworth Avenue (post).
Centre Street, opposite No. 14.
Clinton Street, near G. T. Gale's house (post).
Columbia Street, corner Lincoln.
Columbia Street, corner Market.
Columbia Street, corner Hampshire.
Columbia Street, corner Harvard.
Dana Street, corner Chatham (post).
Dana Street, between Broadway and Cambridge Street (post).
Davis Street, corner Broadway.
Elm Street, opposite Lincoln (post).
Elm Street, corner Market.
Essex Street, westerly side, midway between Harvard and Austin (post).
Fayette Street, 500 feet from Broadway.
Hampshire Street, corner Amory (post).
Hampshire Street, near Somerville line (post).
Hampshire Street, corner Portland (post).
Harvard Street, corner Pine.
Harvard Street, corner Hancock.
Harvard Street, corner Clark.
Harvard Street, corner Dana.
Harvard Street, corner Moore.

Harvard Street, corner Norfolk.
Harvard Street, corner Portland.
Harvard Street, corner Brewery.
Harvard Street, corner Clinton.
Harvard Street, near Railroad Crossing (post).
Harvard Street, between Railroad Crossing and Brewery Street (post).
Harvard Street, opposite Davis (post).
Harvard Street, corner Cherry (post).
Harvard Street, corner Winsor (post).
Harvard Street, opposite Elm (post).
Harvard Street, corner Essex (post).
Harvard Street, corner Prospect (post).
Harvard Street, between Prospect and Inman (post).
Harvard Street, corner Bigelow (post).
Harvard Street, corner Lee (post).
Highland Avenue, east side, midway.
Houghton Street, corner Bolton, in Somerville.
Hunting Street, 400 feet from Cambridge.
Inman Street, near Austin.
Inman Street, corner Harvard.
Inman Street, corner Broadway.
Inman Street, opposite Summer.
Jefferson Street, corner Harding.
Jefferson Street, corner Warren (post).
Jefferson Street, opposite McCabe (post).
Lee Street, midway between Main and Harvard (post).
Main Street, corner Lee.
Main Street, corner Hancock.
Main Street, opposite Bay.
Main Street, corner Pelham (post).
Main Street, corner Essex.
Main Street, opposite Pleasant.
Main Street, corner Bigelow.
Main Street, junction Harvard.
Main Street, corner Pioneer (post).
Main Street, opposite Rawson & Hittinger's.
Main Street, opposite Pearl (post).
Main Street, Gale's driveway (post).
Main Street, corner Third (post).
Maple Avenue, midway between Broadway and Cambridge Street.
Market Street, corner Union.
Moore Street, head of Hastings.
Norfolk Street, corner Hampshire.
Norfolk Street, corner Worcester.
Norfolk Street, head of Washington (post).
Norfolk Street, opposite No. 95 (post).
Oak Street, west side, near Somerville line.
Plymouth Street, corner Berkshire.
Porter Street, corner Bedford (post).
Porter Street, corner Harding (post).
Portland Street, opposite rolling-mill (post).
Portland Street, corner York (post).
Prospect Street, opposite Mr. Tilton's.
Prospect Street, corner Broadway.
Prospect Street, corner Hampshire.
Prospect Street, corner Main.
Prospect Street, corner Gardner.
Prospect Street, opposite school-house, Somerville.
Prospect Street, corner Webster Avenue, Somerville.
Seckel Street, corner Webster Avenue (post).
South Street, opposite Willow, Somerville.
South Street, corner Gore, Somerville.
Tremont Street, near Wellington's house (post).
Tremont Street, near Hampshire (post).
Tremont Street, opposite Gardner (post).
Tremont Street, west side, 200 feet from Cambridge.
Union Street, corner Hampshire.
Ward Street, corner Horace, Somerville.
Webster Avenue, corner Elm Street.
Webster Avenue, corner Bristol Street.
Webster Avenue, corner Winsor Street.
Webster Avenue, corner Hampshire Street.
Webster Avenue, corner Plymouth Street.
Webster Avenue, corner Cambridge Street (post).
West Boston Bridge.
West Boston Bridge.
West Street, midway (post).
Winsor Street, corner Lincoln.
Winsor Street, corner Hampshire.
Winsor Street, corner Washington.
Winsor Street, near Somerville line (post).
Winsor Street, corner Broadway (post).

Ward Three.

Binney Street, corner Ninth (post).
Binney Street, near Railroad Crossing (post).
Bridge Street, at Wellington's Wharf (post).
Bridge Street, at Sanborn's Wharf (post).
Bridge Street, corner Prison Point.
Bridge Street, corner Short.
Bridge Street, corner Short (post).
Bridge Street, corner Water.
Bridge Street, near Bay State glass-house (post).
Bridge Street, north side, opposite Braman, Shaw, & Co's.
Bridge Street, opposite Fourth (post).
Bridge Street, between Short and Water (post).
Bridge Street, near Cambridge (post).
Bridge Street, corner Water (post).
Bridge Street, corner East (post).
Bridge Street, near bridge (post).
Cambridge Street, opposite First.
Cambridge Street, corner Carson.
Cambridge Street, corner Daily's Alley.
Cambridge Street, corner Third.
Cambridge Street, junction Bridge.
Cambridge Street, corner Sixth.
Cambridge Street, near Railroad Crossing (post).
Cambridge Street, opposite Seventh (post).
Cambridge Street, opposite No. 141 (post).
Cambridge Street, near Third (post).
Cambridge Street, corner Fourth (post).
Charles Street, corner Fourth.
Charles Street, corner Third (post).
East Street, corner North (post).
Eighth Street, corner Cambridge.
Fifth Street, corner Winter (post).
Fifth Street, corner Charles.
Fifth Street, corner Spring.
Fifth Street, corner Cambridge.
Fifth Street, corner Gore.
First Street, near Otis (post).
First Street, corner Spring (post).
Fourth Street, corner Winter (post).
Fourth Street, corner Winter.
Fourth Street, corner Cambridge.
Fourth Street, corner Vine.
Fourth Street, corner Thorndike.
Gore Street, corner Third (post).
Gore Street, corner Fourth.
Gore Street, corner Carson (post).
Gore Street, corner Seventh (post).
Gore Street, between Fourth and Fifth, (post).
Gore Street, between Fifth and Sixth (post).
Munroe Street, corner Third (post).
North Street, corner East.
North Street, near Glass Company's cutting-shop.
Otis Street, corner Third.
Otis Street, corner Seventh.
Otis Street, corner Ninth.
Potter Street, corner Ninth (post).
Prison Point Street, 50 feet north of ice-sheds (post).
Prison Point Street, on railroad track, 300 feet from street.
Prison Point Street, near passenger track (post).
Prison Point Street, on railroad track, 600 feet from street.
Prison Point Street, 400 feet from Bridge Street.
Prison Point Street, near Bridge (post).
Prison Point Street, near ice-house (post).
Second Street, corner Thorndike.
Second Street, corner Otis.
Second Street, corner Cambridge.
Sixth Street, corner Gore.
Sixth Street, corner Potter.
Sixth Street, corner Charles (post).
Sixth Street, corner Spring (post).
Spring Street, corner Second.
Spring Street, corner Third.
Spring Street, corner Fourth.
Spring Street, corner Ninth.
Third Street, corner Vine.
Third Street, near Charles (post).
Third Street, corner Bridge (post).
Third Street, corner Potter.
Third Street, opposite gas-works (post).
Thorndike Street, corner Sixth.
Thorndike Street, corner Fifth.
Thorndike Street, near Woodbury's mill (post).

Thorndike Street, corner Second (post).
Vine Street, corner Fifth.
Vine Street, corner Sixth.
Water Street, near sugar-house.
Yard of J. P. Squire & Co. (post).
Yard of American Rubber Co. (post).

Ward Four.

Albany Street, corner Main (post).
Albany Street, opposite Portland (post).
Austin Street, corner Douglass (post).
Austin Street, corner Norfolk (post).
Blackstone Street, west side, 100 feet from avenue (post).
Brookline Street, corner Allston.
Brookline Street, corner Hamilton.
Brookline Street, corner Valentine.
Brookline Street, corner Putnam Avenue.
Brookline Street, corner Erie.
Brookline Street, corner Franklin.
Brookline Street, corner Chestnut.
Brookline Street, near Henry (post).
Brookline Street, corner Decatur (post).
Brookline Street, corner Lopez (post).
Brookline Street, corner Watson (post).
Cherry Street, opposite Eaton.
Chestnut Street, corner Pearl.
Columbia Street, corner Austin.
Columbia Street, corner Washington.
Cottage Street, corner Pearl (post).
Eaton Street, corner Pine (post).
Erie Street, corner Pearl (post).
Erie Street, between Pearl and Brookline (post).
Fairmont Street, corner Andrew (post).
Franklin Street, corner Soden (post).
Franklin Street, corner Hancock (post).
Franklin Street, corner Bay (post).
Franklin Street, near the hill (post).
Franklin Street, corner Sidney.
Franklin Street, midway between Brookline and Sidney (post).
Franklin Street, corner Magazine.
Franklin Street, corner Pleasant.
Franklin Street, near Putnam Avenue (post).
Front Street, junction State.
Front Street, corner Columbia (post).
Green Street, opposite Vernon.
Green Street, corner Putnam Avenue.
Green Street, corner Hancock (post).
Green Street, corner Bay (post).
Green Street, midway between Hancock and Vernon (post).
Green Street, corner Vernon (post).
Green Street, corner Pleasant (post).
Green Street, corner Western Avenue (post).
Green Street, corner Pearl (post).
Green Street, corner Brookline (post).
Grigg Street, corner Putnam Avenue.
Henry Street, near Hastings (post).
Kinnaird Street, corner Bay (post).
Magazine Street, corner Cottage.
Magazine Street, corner Putnam Avenue.
Magazine Street, corner Warland.
Magazine Street, corner Auburn.
Magazine Street, corner Park.
Magazine Street, corner Upton.
Magazine Street, opposite Hamilton.
Magazine Street, opposite Allston (post).
Magazine Street, corner Florence.
Magazine Street, corner Green (post).
Main Street, corner Harrison (post).
Main Street, corner Columbia.
Main Street, corner Winsor.
Main Street, corner Norfolk.
Main Street, junction Austin.
Main Street, north side, opposite Kennedy's bakery.
Main Street, corner Washington.
Main Street, corner Portland.
Osborn Street, corner State (post).
Osborn Street, corner Main (post).
Pacific Street, corner Sidney.
Pacific Street, near Albany.
Pearl Street, corner Lake.
Pearl Street, corner Allston (post).
Pearl Street, corner Putnam Avenue.
Pearl Street, corner Decatur.
Pearl Street, corner Auburn.
Pearl Street, corner Glenwood (post).
Pleasant Street, corner Florence (post).
Pleasant Street, corner Upton.
Pleasant Street, corner Somerset.
Pleasant Street, corner Park.

Pleasant Street, corner Prince.
Pleasant Street, corner Pleasant Place (post).
Pleasant Street, corner Chestnut.
Pleasant Street, corner Franklin (post).
Portland Street, corner Main (post).
Putnam Avenue, opposite Ballard Place (post).
Putnam Avenue, near River Street (post).
Putnam Avenue, corner River Street (post).
Putnam Avenue, corner Walnut Court (post).
Putnam Avenue, corner Pleasant Street (post).
Putnam Avenue, between River and Pleasant Streets (post).
Putnam Avenue, corner Waverly Street (post).
River Street, corner Franklin.
River Street, opposite Cottage.
River Street, opposite Laurel.
River Street, corner Blackstone.
River Street, opposite Fairmont.
School Street, corner Clark.
School Street, corner Portland (post).
School Street, corner Clark (post).
School Street, corner Moore (post).
Somerset Street, corner Andrew (post).
State Street, opposite Village (post).
State Street, near Howe's Factory (post).
Sidney Street, corner Allston.
Sidney Street, corner Putnam Avenue.
Sidney Street, corner Chestnut.
Sidney Street, corner Front (post).
Sidney Street, corner Green (post).
Washington Street, corner Brewery (post).
Washington Street, corner Clark.
Washington Street, corner Portland (post).
Washington Street, corner Moore (post).
Waverly Street, corner Allston (post).
Western Avenue, corner Howard Street.
Western Avenue, corner Kinnaird Street.
Western Avenue, corner Jay Street.
Western Avenue, opposite Soden Street (post).
William Street, between Magazine and River (post).

Ward Five.

Arlington Street, 500 feet from North Avenue (post).
Beech Street, east side, 20 feet from Orchard.
Belmont Street, corner Montgomery (post).
Blake Street, corner North Avenue (post).
Cedar Street, corner Spruce.
Cedar Street, opposite Norris.
Cedar Street, opposite hotel.
Cogswell Avenue, corner Mead Street.
Concord Avenue, corner Madison Street.
Concord Avenue, opposite Bond Street.
Concord Avenue, corner Walden Street.
Concord Avenue, opposite Eames's estate (post).
Crescent Street, corner Sacramento (post).
Donnell Street, corner Garden.
Dublin Street, 525 feet from Spruce.
Dublin Street, 620 feet from Walden.
Dublin Street, corner Walden.
Dublin Street, corner Bolton.
Dublin Street, corner Railroad (post).
Fairfield Street, opposite Mr. Whitney's.
Forest Street, corner Frost (post).
Garden Court, corner Dublin Street.
Garden Street, opposite Bond.
Garfield Street, corner Oxford (post).
Garfield Street, corner North Avenue (post).
Harris Street, corner Frost (post).
Harvey Street, opposite Montgomery.
Hollis Street, in the elbow.
Hubbard Avenue, opposite brick block.
Hubbard Avenue, cor. Raymond Street.
Lambert Avenue, corner Walnut Avenue (post).
Lambert Avenue, corner North Avenue (post).
Lancaster Street, corner Lancaster Place (post).
Linnæan Street, corner Avon.
Linnæan Street, corner Bowdoin.
Linnæan Street, corner Raymond.

Milk Street, corner White.
Milk Street, near Somerville line (post).
Montgomery Street, 300 feet from Harvey (post).
Mt. Vernon Street, corner North Avenue (post).
North Avenue, near railroad bridge.
North Avenue, corner Cogswell Avenue.
North Avenue, corner Allen Street.
North Avenue, corner Dover Street.
North Avenue, 300 feet west of Tannery.
North Avenue, corner Sacramento Street.
North Avenue, opposite Linnæan Street.
North Avenue, corner Chester Street.
North Avenue, corner Arlington Street.
North Avenue, corner Rice Street.
North Avenue, corner Cedar Street.
North Avenue, opposite Tannery.
North Avenue, opposite No. 368 (post).
North Avenue, near Walcott Richardson's gate.
North Avenue, corner Beech.
North Avenue, corner Frank Street (post).
North Avenue, corner Day Street.
Norton Street, midway.
Orchard Street, near Davenport (post).
Orchard Street, opposite Tenney Court.
Oxford Street, corner Forest.
Oxford Street, corner Sacramento.
Pemberton Street, 500 feet from North Avenue (post).
Pemberton Street, corner Fairfield (post).
Raymond Street, south side (2), near Mr. Dresser's estate.
Reed Street, 250 feet from Harvey.
Reed Street, opposite school-house.
Rice Street, opposite L. L. Cushing's.
Richdale Avenue, corner Raymond Street.
Richdale Avenue, near Raymond Street (post).
Roseland Street, corner Frost.
Shepard Street, corner Avon.
Spruce Street, corner Hollis.
Spruce Street, corner Jackson (post).
Spruce Street, corner Reed.
Spruce Street, corner Montgomery.
Spruce Street, corner North Avenue.
Spruce Street, opposite school-house.
Spruce Street, corner Clay.
Spruce Street, corner Clifton.
Tannery Street (3), between North Avenue and Almshouse (posts).
Tuttle Street, opposite Ladd's barn.
Walden Street, corner Mead.
Walden Street, corner North Avenue (post).
Walden Street, corner Hubbard Avenue.
Wallace Street, in the elbow.
Washington Avenue, corner Dexter.
Washington Avenue, corner Hillside Avenue (post).
Wyeth Street, corner Garden.

RESERVOIRS.

Ward One.

Bow Street, centre of square.
Brighton Street, corner Eliot.
College Yard.
Garden Street, north end of Appian Way.
Junction Garden Street and Concord Avenue, opposite Arsenal.

Ward Two.

Broadway, head of Tremont Street.
Cambridge Street, corner Webster Avenue.
Essex Street, corner Austin.
Harvard Street, opposite Broadway Park.
Harvard Street, head of Cherry.
Harvard Street, corner Davis.
Harvard Street, corner Prospect.
Norfolk Street, midway between Broadway and Hampshire.
Washington Street, corner Cherry.

Ward Three.

Cambridge Street, 70 feet east of Third.
Gore Street, corner North Third.
Junction Bridge and Gore Streets.
Otis Street, corner Fourth.
Thorndike Street, corner Third.
Under New England Glass Company's building.
Under Lowell Railroad machine-shop.

Ward Four.

Junction Western Avenue and Pleasant Street.
Lafayette Square (2).
Main Street, corner Austin.
Main Street, corner Brookline.

Ward Five.

North Avenue, near Engine-House No. 4.

CAMBRIDGE FIRE-ALARM TELEGRAPH.

LOCATION OF BOXES.

2. Prison Point Street, corner Bridge.
4. Gore, J. P. Squire's building.
6. Third, corner Broadway.
7. Third, corner Bent.
8. Thorndike, corner Third.
9. Cambridge, near First.
12. Winter, corner Third.
12. North, corner Water (duplicate).
13. Fourth, Engine-House No. 3.
14. Sixth, corner Cambridge.
15. Vine, corner Fifth.
16. Broadway, Greely's mill.
17. Washington, corner Brewery.
21. Sidney, corner Allston.
23. Pearl, corner Auburn.
24. Brookline, corner Valentine.
25. Main and Front (junction).
26. Main, corner Osborn.
27. Clark, corner Harvard.
28. Broadway, opp. Page's box factory.
29. Pine, corner Washington.
31. Cambridge, corner Harding.
32. Columbia, corner Cambridge.
34. Hampshire, corner Columbia.
35. Harvard, corner Norfolk.
36. Main, corner Western Avenue.
37. Pleasant and River (junction).
38. Magazine, corner Lake.
39. Magazine, corner Chestnut.
41. Pleasant, corner Fairmont.
42. Blackstone, opp. Riverside Press.
43. Banks, corner Flagg.
45. Franklin, near Soden.
46. Main, corner Hancock.
47. Broadway, corner Antrim.
48. Cambridge, corner Hampshire (junction).
49. Cambridge, corner Baldwin.
51. Broadway, corner Ellery.
52. Mt. Auburn and Main (junction).
53. Mt. Auburn, corner Holyoke Place.
54. Cambridge, Memorial Hall (south side).
56. Kirkland, corner Sumner.
57. Oxford, corner Mellen.
59. Harvard Square, Ramsay's drug store.
61. Brattle Square, City Building.
62. Mt. Auburn, corner Hilliard.
63. Brattle, corner Mason (junction).
64. Chauncy, corner Garden.
65. North Avenue, corner Shepard.
68. North Avenue, near railroad bridge.
69. North Avenue, Engine-House No. 4.
71. North Avenue, near Tannery.
72. Cedar, hotel building.
73. Spruce, near Bay State brick-yard.
74. Dublin, corner Railroad.
75. Walden, corner Raymond.
78. Concord Avenue, corner Sparks.
79. Brattle, corner Sparks.
82. Brattle, corner Elmwood Avenue.
83. Mt. Auburn, near railroad stable.
87. Lake View Avenue, near junction Concord Avenue.
89. Concord Avenue, near Hittinger's ice-houses.
91. North Avenue, Union Railway car-house.
92. Locust, corner Cushing.
114. Ninth Street, Goepper Brothers' barrel factory.
116. Broadway, Tower's piano-action factory.
125. Green, F. A. Kennedy's cracker bakery.
216. Potter, rubber-factory yard.

INSTRUCTIONS TO KEY-HOLDERS.

Alarms to be given from the box nearest the location of the fire.

Don't give an alarm for a fire seen at a distance, unless assistance is called for.

To give an alarm, open the door, pull the hook to the bottom of the slot once, and let go. Each box contains a small bell, which, if heard before you pull, indicates that an alarm has been previously given; and, by listening at the box, you will learn the number of the box from which the alarm was given; but in no case must you pull the hook while the alarm is striking. After giving the alarm, remain at the box, so as to direct the firemen to the fire. Be sure that you lock the box before leaving it.

Citizens are requested to inform themselves where keys to the signal-boxes are kept, signs suitably inscribed being placed over each box, giving the requisite information.

INSTRUCTIONS TO FIREMEN.

First alarm will be given by striking *three* or more rounds.

Second alarm will be given by repeating the first.

General alarm will be given by striking *three blows* on the gongs and bells.

In cases where hook-and-ladder companies only are wanted, the call will be given by striking *five blows*.

Companies not required to respond to first or second alarms will be notified by *two blows* on the gongs of the extinguishment of a fire, that their services will not be needed, and that orders have been given to "make up." Should an alarm be given from any box while a portion of the department is engaged at a fire, the apparatus not in service will respond.

REPORT

OF

THE CHIEF OF POLICE.

To the Honorable Mayor and the City Council: —

GENTLEMEN, — In compliance with the city ordinance, I have the honor to present the annual report of the work of the Police Department for the year ending Nov. 30, 1884.

Whole number of arrests	1,723
Males	1,600
Females	123
Adults	1,473
Minors	250

Causes of Arrest.

Assault and battery	212
Assault, felonious	9
Assault on officer	16
Adultery	3
Arson	1
Breaking and entering	38
Bastardy	7
Common drunkards	11
Cruelty to dumb animals	2
Common railer and brawler	2
Cruelty to children	4
Disturbing the peace	70
Drunkenness	839
Disturbing public meetings	3
Delirium tremens	2
Embezzlement	4
Escaped prisoners	3

Fast driving	2
Forgery	1
False pretences	6
Idle and disorderly	4
Insane	10
Larceny	167
Larceny from building	7
Malicious mischief	41
Murder	1
Peddling without license	28
Receiving stolen goods	3
Robbery	3
Safe keeping	4
Stubborn children	4
Suspicious persons	13
Surety of the peace	6
Truants	9
Vagrants	50
Violating city ordinances	84
Violating health ordinances	1
Violating liquor law	31
Wilful trespass	22
Total	1,723

Number of lodgers		1,105
Males	1,047	
Females	58	
Minors	50	
Adults	1,055	

Miscellaneous Business.

Accidents reported	103
Buildings found open and secured	231
Cases investigated	553
Dangerous buildings	7
Dangerous chimneys	3
Dead bodies found	15
Defective cesspools	47
Defective drains and vaults reported	38
Defective fire alarms reported	6
Defective gas-pipe reported	9
Defective hydrants reported	11

Defective lamps	6
Defective streets and sidewalks	432
Defective water-pipes	65
Disturbances suppressed	290
Extra duty done by officers (days)	304
Fire alarms given	16
Fires extinguished without alarm	9
Intoxicated persons helped home	46
Lost children restored	201
Sick and injured persons assisted	39
Stray teams put up	84
Street obstructions removed	19
Water running to waste	32

Value of property reported stolen	$4,318.85
Value of property recovered	$2,246.78

City Property in Use by Police Department.

	Estimated value.
72 badges	$100.00
80 billies (short)	50.00
54 belts and billies for parade	54.00
18 buckets	9.00
2 bookcases	12.00
4 bedsteads	12.00
Bedding and blankets	30.00
8 books	26.00
2 brooms	.50
1 boat and grapples	20.00
2 bureaus	3.00
1 buggy	100.00
8 clocks	40.00
50 chairs	50.00
2 coal-hods	1.00
4 carpets	20.00
1 copying-machine	8.00
9 desks	180.00
3 dust-pans	.50
2 horses	150.00
4 sets of harness	40.00
2 horse-blankets	6.00
5 pairs hand-cuffs	10.00
Amount carried forward	$922.00

Amount brought forward	$922.00
Hand-hose	5.00
1 hat-rack	.50
1 ice hatchet and tongs	1.00
2 halters	.75
2 straps and weights	1.00
3 thermometers	.75
3 wash-bowls	.75
18 lanterns	18.00
5 lounges	30.00
1 letter-scale	.75
2 lamps	1.00
8 mirrors	14.00
4 mats	4.00
3 maps	1.00
6 oil-cans	1.50
10 pistols	10.00
1 police van (large)	150.00
1 police van (small)	200.00
1 pair of runners	6.00
Ropes and stakes	25.00
3 robes	6.00
6 slates	1.00
16 spittoons	4.00
1 sleigh	20.00
1 sofa	5.00
4 stretchers	6.00
3 saddles	15.00
1 safe	200.00
2 stoves	30.00
Telephone line	300.00
30 tin dippers	3.00
16 towels	3.00
8 tables	24.00
2 umbrella-stands	2.00
6 waste-baskets	2.00
4 water-coolers	4.00
4 water-pails	1.00
1 wagon	30.00
1 wagon-jack	1.00
1 wardrobe	10.00
	$2,060.00

Total Cost of the Department for the Year.

Appropriation and estimated revenue	$73,000.00
Additional appropriation	1,218.59
Total	$74,218.59

RECEIPTS.

Officers' fees, etc.	$5,242.96	
Expenditures		$74,218.59
Receipts		5,242.96
Balance, showing actual cost		$68,975.63

The organization of the force consists of a chief, three captains, ten sergeants, and sixty-two patrolmen. Three sergeants and thirteen patrolmen are on duty in the daytime, including one patrolman, who has the charge of Station Five; one sergeant is detailed as inspector. During the night-time there are seven sergeants and forty-nine patrolmen on duty: one as house-sergeant at Station One; six as patrol-sergeants, — two in each police district, a sergeant with each relief; three patrolmen as house-officers; and forty-six officers divided into two reliefs.

Placed in charge of the Police Force as its Chief at so recent a date, viz. October 13, I can only report its condition as I have found it; but will offer suggestions as to any needed changes in the working thereof, if any should be deemed necessary, during the coming year. In my judgment the department is now in excellent condition; there is more harmony and co-operation among the members than I have known during thirteen years of service. The new system of sergeants keeps the force well in hand. By a close observation of results as reported to me by subordinate officers, I hope to be able to maintain the character and efficiency of the Police Force of our city in a manner that shall satisfy our citizens.

Respectfully submitted,

LOTHROP J. CLOYES,
Chief of Police.

REPORT

OF

THE BOARD OF HEALTH.

To the Honorable City Council of the City of Cambridge: —

In compliance with the public statutes creating boards of health, we herewith submit our annual report for the year ending Dec. 31, 1884, giving such details of our work as it seems to us important to submit to your honorable body, and also making such recommendations as appear to us for the best interests and sanitary well-being of the city. The following shows the number and nature of nuisances investigated during the year: —

Full privy-vaults and cesspools	1,098
Open, defective, and broken privy-vaults	211
Filthy, defective privies and water-closets	128
Defective drains and drainage	681
No traps under sinks	642
Privies on or near line	11
No proper privy-vault	48
Filthy yards, sheds, and cellars	101
Manure-heaps in yards	84
Leaky and defective sinks	58
No proper sink	40
Stagnant water on premises	30
Total	3,132

Ten persons have been prosecuted in the District Court, — four for violation of regulations of this Board, and six for non-compliance with the orders of the Board, after repeated notice. Two houses have been ordered to be vacated; in one case this

order was enforced by the assistance of the police. During the early summer parties living in the immediate vicinity of the Mill Pond made repeated complaints of the foul odor arising from the shores and outlet of this basin. On examination made by the health officer, it was found that a quantity of blackish, filthy, and stinking water had collected on the River Street side of the pond, where little or no filling had been done, and that a stream of this was constantly flowing through the canal south of Putnam Avenue; this water was strongly impregnated with sulphurated hydrogen, and its foul odor permeated the whole immediate neighborhood. The most of this water had evidently filtered through the filling put in the pond the last few years, and its disgusting, sickening odor was, without doubt, caused by the decomposition going on in the marsh mud and other organic matter covered by the filling last winter when the pond was frozen, — a layer from two to three feet thick having been placed on the ice over nearly all the unfilled part of this basin. As your honorable body is aware, this filthy, stagnant pond has been a constant source of complaint from parties living in its vicinity for a number of years, and this Board has repeatedly called the attention of the City Government to the matter.

No one who has ever investigated these complaints has questioned for a moment the justice of them, and from time to time little expedients and makeshifts have been tried to improve this condition of things, — the real object of them being to gain time until the pond could be filled by using it as a dumping-ground for the ashes and street-sweepings collected in this part of the city. Persons living in this vicinity now demand as a right that they be relieved from this serious and disgusting nuisance. In the opinion of this Board such a demand is not only right and just, but an absolute necessity as a sanitary measure. We therefore recommend that the part of the pond north of Putnam Avenue, as well as the canal between Putnam Avenue and Blackstone Street, be filled and graded with clean material; we also recommend that this work be completed before the first of July.

As usual, we particularly call your attention to the filthy condition of Alewife Brook, as well as the still more serious matter of that part of the Charles River basin bordering our city. The brook, owing to the cleaning last year, and the large amount of

rain in the spring and early summer, has kept fairly clean; and perhaps it has been less a nuisance than in some past years. Still, the same condition of things exists, and, from the building of new houses and the consequent entering of soil and waste pipes into our sewers, it must of necessity grow more and more serious every year. The flats of the Charles River basin are growing more and more offensive; and even now, the odor arising from this source, when they are not covered by the tide-water, is not only very annoying to the people living in this vicinity, but it also seriously threatens the health of all coming within its influence. The serious nuisance caused by the discharge of the contents of the Bridge Street sewer into that part of the basin near the Cambridge end of Craigie's Bridge still continues, although, by reason of the thorough cleaning by washing and dredging the accumulated filth in the vicinity of the sewer outlet last spring, it has been less serious and annoying than last year; still, the sickening and disgusting odor arising from this source is almost intolerable, and this cleaning should again be done in the early spring. We renew our recommendation of last year, that the City Government at once take such steps as it may think proper, looking to the permanent abatement of the Alewife Brook and Charles River basin nuisances.

We again call your attention to the privy-vault attached to the Allston school-house, Boardman Street. This vault is very large, being about eighteen feet long by twelve feet wide, and the odor coming from so large an area of sewage, particularly when agitated, as it is some three or four times a day, by five or six hundred children using it, is not only offensive, but more or less dangerous to the health of the occupants of the school-house. Some arrangement should at once be made to conduct the sewage directly and rapidly into the sewer, and this large vault should be done away with.

For the third time we call the attention of the City Council to the very urgent necessity for a suitable building for the care and treatment of persons sick with contagious diseases; and for the information of your honorable body we make the following quotation from our report of last year: "The building now used for this purpose is an old one-story house, situated in a field at the rear of the Almshouse. This house contains four rooms, each about twelve feet square, and adjoining each other in a row. The two

end rooms have windows on two sides, while the middle rooms have windows on only one side, and there is no door or other means of communication between the second and third rooms. All the rooms are poorly furnished, with loose doors and windows; doors opening directly outside, no proper drainage, no water, except such as is brought in pails, no means of cooking, no cellar, no bath-room, and no conveniences in the way of a water-closet or even of a privy, except a leaky and very uncomfortable house, used for this purpose, situated at some distance from the hospital building. This place has been occupied four times during the past two years by patients suffering from contagious diseases. Fortunately these cases have occurred in the warmer months of the year, and we have been able to keep the patients fairly comfortable. Without doubt we shall require a building for the treatment of such diseases more or less every year.

"As the Trustees of the Cambridge Hospital are about to build a general hospital on their ground on Mount Auburn Street, we believe that if some arrangement could be made with them by the city authorities to have this hospital for contagious diseases built on their grounds, and be maintained and operated by them or their agents, such a plan would be to the advantage of both parties."

During the summer, soon after the cholera appeared in France, when it was admitted by most sanitary authorities that there was a great liability of its appearing in this country, in order to be as well prepared as possible for such a scourge, it was thought best by the Board to make a careful house-to-house inspection of a large part of the city. The health officer has from time to time, as his other duties would allow, repeatedly within the last few years made such an inspection of the most unhealthy districts, and the sanitary conditions and requirements of these were well known to the Board. Still, with this danger threatening us, it was thought of vital importance to know, not only the exact conditions of these unhealthy districts existing at the time, but also of all other parts of the city. Of course it was impossible for this officer to make such a minute and careful inspection in time to have the knowledge obtained by it of any service to us in the way of suggesting measures of prevention or control of this disease had it appeared this year, even had he given his whole time to it. For the purpose of this work, the city was divided into four

districts, and a physician appointed sanitary inspector in each. These physicians were, Drs. Taylor, Dunbar, Wetherbee, and Finnigan. The inspectors were instructed to visit each house, yard, stable, and outhouse, and were also to inspect the drainage inside the house where there was any complaint from the occupant, or a suspicion that this was imperfect; the health officer accompanying each of them the first few hours of their work, in order that they might thoroughly understand just what was expected of them. They were to note in a book furnished for the purpose all privy-vaults, stables, and wells, also their location; they were also to note all defective drainage, full or defective privy-vaults, dirty yards, sheds, or cellars, or other sanitary defects; and the name of the owner or agent of the premises (with address) where such defects existed. Four hours a day were to be given to inspecting, and each officer was to report to the office every day the result of his work, and for instruction, consultation, etc. For this work they were to receive $83.33 per month. Mr. Charles S. Lincoln was employed in the office to act as clerk in sending notices to owners or agents of premises where defective sanitary conditions were found to exist. This work of inspection was completed in about six weeks. As a result of this inspection, 1,785 premises were found in an unsanitary condition, and the owners or agents notified; 3,241 privy-vaults, 789 stables, 191 cow stables and sheds, 207 wells in use, and 18 wells not in use, were noted.

We are happy to testify to the zeal and desire to do honest and good work shown by these inspectors. As a rule they were welcomed by house occupants, and every facility was extended to enable them to prosecute the inspection in a thorough and expeditious manner. From this experience we are satisfied that these physicians, with their general knowledge of sanitary matters, and their habits of close observation, accomplished as much, or more, in the four hours than one not possessed of these advantages would in twice that time. Their reports were reliable and accurate, and the advice given by them on their tour of inspection carried the weight of authority. Such inspectors should always be employed when they can be obtained.

From the reports of these inspectors a large map has been made, showing the location of every privy-vault, well, and stable in the city. Also, during the year separate maps for each have

been made, showing the location of all cases of scarlet fever, diphtheria, and typhoid fever for the last four years.

It is well known that the cholera appeared in Paris and in many other parts of France in the late fall, and for a time became quite prevalent; fortunately, the cold weather has stayed its progress for the present; but it is more than probable that in the warm weather of the spring or early summer this scourge will again show itself. If such is the case, this country is almost certain to be visited by this disease, — at least this has been the history heretofore, that whenever cholera has appeared to any extent in western Europe, it has soon appeared in this country. Should this disease again appear in Europe in the coming summer, ordinary precaution would compel us to put the city in the best possible sanitary condition to meet it, should it come here. For this purpose, this Board will, without doubt, cause a house-to-house inspection, similar to the one made this year, in the early summer. For this and other expenses we respectfully ask of the City Council that an appropriation be placed at our disposal of at least $4,000.

Boards of health, although given by statute almost unlimited power, cannot be successful in their work unless they have the approval, hearty co-operation, and cordial assistance of the community. We would suggest that such assistance in the threatened emergency alluded to above can best be rendered by our citizens by enforcing the following regulations: All surface wells to be abandoned; all decaying food, vegetables, or fruit, or other filth to be at once removed; all cellars to be thoroughly cleaned and whitewashed; all privy-vaults to be done away with where this is possible; otherwise, they should be thoroughly cleaned, disinfected, and made tight. Any odor from a vault, except in its *very immediate* vicinity, is a sure evidence that it is not in a proper condition, and such should receive immediate attention. All drains to be made tight, free, and to be properly trapped.

April 11, 1883, the following Act relating to the removal and transportation of certain bodies for burial was passed and became a law. See Acts of 1883, chapter 124, sec. 2: —

"No railroad corporation, or other common carrier or person, shall convey, or cause to be conveyed, through or from any city or town in this Commonwealth, the remains of any person who

has died of small-pox, scarlet fever, diphtheria, or typhoid fever, until such body has been so encased and prepared as to preclude any danger of communicating the disease to others by its transportation ; and no local register or clerk shall give a permit for the removal of such body until he has received from the board of health of the city, or the selectmen of the town, where the death occurred, a certificate, stating the cause of death, and that said body has been prepared in the manner set forth in this section, which certificate shall be delivered to the agent or person who receives the body."

By reason of this law the following vote was passed by this Board : —

"That the Clerk be authorized to issue a certificate of this Board, under the provisions of chapter 124 of the Acts of 1883, when he shall have received from the undertaker in charge of the body a certificate that the same has been wrapped in a sheet saturated with a tenth of one per cent solution of bichloride of mercury, and placed in a tight coffin, the same not to be again opened."

There has been more or less criticism in relation to this regulation, some claiming that it is unjustly strict and severe in its condition, while others think it ought to be even more stringent, and that it should prescribe that the bodies of all dying from either of these diseases shall *at once* be placed in such a sheet, and the coffin permanently closed ; that no public funeral shall be held over such remains, neither shall a coffin containing such a body be carried in any public or private carriage.

This question was considered and discussed in all its details with very great care and at length by this Board, and we are satisfied there can be no danger of contagion from a body after it has received the treatment prescribed in this order ; therefore we did not think it wise or just to say what the funeral in such a case should be, nor how the coffin should be transported from the place of death to the grave. The treatment and burial of the dead is held as a sacred rite, and is not to be interfered with, except so far as the protection of the public health demands. We would, however, recommend that the bodies of all dying from either of these contagious diseases be permanently enclosed in the coffin, and buried as soon as possible after death ; further, that no public funeral be held in such a case, — not because

there is any danger of contagion from the dead body after it has received the treatment prescribed above, but because there is very grave danger in visiting a house infected by the sickness and death.

It has come to the ears of the Board on two or three occasions that this regulation had not been complied with by the undertakers; these cases were investigated, and the rumors were found to be false. We are satisfied these officers have been faithful in the execution of this order. Should it come to the knowledge of this Board that any undertaker had violated it, either in letter or spirit, such a one will be promptly dealt with. During the last half of the year we have been visited by an epidemic of scarlet fever; fortunately this has been of a very mild type, there having been on an average only one death in twenty-five cases; this epidemic has been pretty general in this part of the State. As will be seen by the tabulated statement published with this report, the number of cases of diphtheria this year is somewhat smaller than last, and there has also been a large decrease in the number of deaths. The number of cases of typhoid fever has also decreased, there having occurred eighty-nine cases of this disease against one hundred and eleven last year.

We call the attention of your honorable body to the number of deaths occurring during the year, tabulated, classified, and published with this report.

D. H. THURSTON,
H. P. WALCOTT,
GEORGE F. PIPER,
} *Board of Health.*

APPENDIX.

Causes of Death in 1884.

CLASSIFIED ACCORDING TO THE NOSOLOGY ADOPTED IN THE REGISTRATION REPORTS OF MASSACHUSETTS.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Scarlet Fever	3	1	2	1	2	....	....	2	3	2	4	9	29
Diphtheria	2	4	3	3	3	1	4	7	1	2	3	8	41
Measles	....	....	....	....	....	....	....	1	....	....	....	....	1
Varicella	....	....	....	....	....	....	....	....	....	....	....	....	....
Croup	1	2	3	....	....	1	....	2	....	1	1	2	13
Whooping Cough	....	....	1	1	....	....	3	3	3	1	1	....	13
Typhoid Fever	4	....	....	2	1	2	....	3	3	4	3	2	24
Erysipelas	1	....	1	....	....	....	....	....	....	....	....	....	2
Metria	2	2	2	....	....	....	1	....	1	1	1	....	10
Dysentery	....	....	....	....	....	....	1	1	2	1	....	....	5
Diarrhœa	3	1	....	....	....	2	1	1	3	....	....	....	11
Cholera Infantum	....	....	....	....	....	....	7	24	18	7	1	....	57
Cholera Morbus	....	....	....	....	....	....	1	....	....	....	....	....	1
Rheumatism	....	....	1	....	1	....	1	....	....	....	....	....	3
Cerebro-Spinal Meningitis	....	....	1	1	....	1	....	1	....	....	....	....	4
Septicæmia	2	....	1	....	1	....	....	2	....	....	2	....	8
Syphilis	....	....	....	....	....	....	....	....	....	....	1	....	1
Hydrophobia	....	....	....	....	....	....	....	....	1	....	....	....	1
Privation	...	....	....	....	....	....	....	....	....	....	....	....	....
Purpurea Hemorrhagica	....	....	....	....	....	....	....	....	....	....	....	....	....
Alcoholism	....	....	....	....	1	1	....	....	....	....	....	1	3
Dropsy and Anæmia	1	....	1	....	1	....	....	....	....	1	....	....	4
Mortification	....	....	....	....	....	....	....	....	....	....	....	....	....
Cancer	2	2	5	2	4	1	1	3	2	5	2	3	32
Phthisis	15	18	21	16	22	12	12	14	21	18	15	13	197
Hydrocephalus	2	1	....	....	....	1	....	3	1	....	....	....	8
Tabes Mesenterica	2	....	....	....	1	....	1	1	....	2	2	1	10

Causes of Death in 1884. — Continued.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Sunstroke	....	....	....	....	....	....	....	....	1	....	....	....	1
Meningitis	6	5	7	4	4	5	5	7	4	9	4	5	65
Apoplexy	4	2	2	3	....	....	3	2	1	3	1	3	24
Paralysis	3	2	1	2	3	1	3	1	2	....	1	....	19
Insanity	....	....	....	....	....	....	....	....	....	....	....	....	....
Convulsions	5	3	2	1	3	1	3	4	2	4	1	3	32
Brain Diseases	2	1	....	3	2	1	1	2	4	....	....	1	17
Epilepsy	....	....	....	....	....	1	....	....	....	....	....	....	1
Tetanus	....	....	....	....	....	1	....	....	....	....	....	....	1
Locomotor Ataxia	....	....	....	....	....	....	....	....	....	....	....	1	1
Pericarditis	....	....	....	....	....	....	1	....	....	....	....	....	1
Aneurism	....	....	....	1	....	....	....	....	....	....	....	....	1
Heart Diseases	2	9	7	3	3	3	4	3	3	7	6	11	61
Laryngitis	....	....	....	....	....	....	....	....	....	....	....	1	1
Bronchitis	4	3	3	2	3	2	3	1	1	2	6	7	37
Pleurisy	....	....	....	....	....	1	....	....	....	....	....	....	1
Pneumonia	9	9	2	7	5	5	7	3	4	6	10	22	89
Asthma	1	1	1	1	....	....	....	....	1	....	....	2	7
Lung Diseases	....	....	....	....	....	1	....	1	....	2	1	2	7
Gastritis	....	....	2	....	....	....	2	2	....	....	1	1	8
Enteritis	....	....	....	....	....	....	....	....	....	....	....	....	....
Peritonitis	1	1	1	....	....	2	2	....	....	1	3	2	13
Ulceration of Intestines	....	....	....	....	....	....	....	....	....	....	....	....	....
Hernia	....	....	....	....	....	....	....	....	....	....	....	....	....
Ileus	....	....	....	....	....	....	....	....	....	....	....	....	....
Occlusion of Intestines	1	....	....	....	....	....	....	1	....	....	....	....	2
Fistula	....	....	....	....	....	....	....	....	....	....	....	....	....
Stomach Disease	2	....	....	....	....	....	1	1	....	....	....	1	5
Jaundice	....	....	....	....	....	....	....	....	....	....	....	....	....
Liver Diseases	1	2	....	2	2	2	3	....	....	....	....	1	13
Spleen Diseases	....	....	....	....	....	....	....	....	....	....	....	....	....
Nephritis	....	....	1	1	....	....	....	2	1	. ..	1	....	6
Bright's Disease	5	1	2	1	4	3	4	....	1	2	1	3	27
Diabetes	....	....	....	....	....	....	1	....	....	...	2	....	3
Cystitis	....	....	....	....	....	....	....	2	1	....	....	1	4
Kidney Diseases	....	....	....	....	....	....	....	....	....	....	....	....	....
Addison's Disease	....	....	....	1	....	....	....	....	....	....	....	....	1
Disease of Uterus	....	....	....	....	....	....	....	...	....	....	....	....	....
Disease of Hip-joint	....	....	1	....	....	....	....	....	....	....	....	....	1
Pott's Disease	....	....	1	....	....	....	....	....	....	...	....	....	1
Cellulitis	....	....	....	....	....	....	....	....	....	1	....	....	1

Causes of Death in 1884. — Continued.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Eczema	....	....	....	....	....	....	....	....	....	1	....	1	2
Tumor	....	....	....	....	....	....	....	....	....	....	....	1	1
Ulcer	....	....	....	....	....	....	....	....	....	....	....	....	....
Stillborn	3	1	8	7	10	10	6	7	1	1	5	3	62
Premature Birth and Infantile Debility	5	6	6	1	3	4	7	8	8	3	3	6	60
Cyanosis	....	....	....	....	....	1	1	1	....	....	....	....	3
Spina Bifida	....	1	....	....	....	....	1	....	....	....	....	....	2
Other Malformations	....	....	....	....	....	....	....	1	....	....	....	....	1
Teething	....	....	....	....	....	....	....	....	....	....	....	....	....
Umbilical Hemorrhage	....	....	....	....	....	....	....	....	....	....	....	....	....
Neglect	....	....	....	....	....	....	....	....	....	....	....	....	....
Childbirth	....	....	....	....	....	....	....	....	....	....	....	....	....
Old Age	....	....	6	3	3	3	2	3	6	1	2	1	30
Atrophy and Debility	1	....	....	2	1	2	....	3	6	1	1	....	17
Fractures and Contusions	....	3	2	....	1	2	3	....	2	1	....	....	14
Burns and Scalds	....	....	....	1	1	....	1	....	....	....	....	....	3
Drowning	....	....	3	....	....	1	1	1	1	....	....	....	7
Other Casualties	....	....	....	....	2	1	1	....	....	....	....	3	7
Poison	....	....	....	1	....	....	....	....	....	....	....	....	1
Suicide	....	....	....	....	1	....	....	....	....	....	....	....	1
Unknown	4	....	4	1	1	1	2	1	2	1	5	....	22
Totals	99	81	104	74	89	76	101	125	111	91	90	121	1,162

Cases of Scarlet Fever, Diphtheria, and Typhoid Fever, reported to the Board of Health for the Year 1884.

Name of Disease.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Scarlet Fever	34	29	23	20	33	25	38	29	46	58	74	87	496
Diphtheria	15	16	19	16	19	19	10	18	11	33	22	27	225
Typhoid Fever	3	4	2	4	4	6	2	9	23	19	8	5	89
Totals	52	49	44	40	56	50	50	56	80	110	104	119	810

REPORT

OF THE

SUPERINTENDENT OF LAMPS.

The undersigned respectfully submits his annual report as Superintendent of Lamps for the year ending Nov. 30, 1884: —

The amount appropriated for lighting streets for the year ending Nov. 30, 1884, was $32,000.

The amount expended was as follows: —

For Gas	$22,026.07	
Care of lamps, and lighting	7,267.87	
Posts and lanterns	790.10	
Repairs	169.88	
Lamps in Belmont District	145.00	
Labor, pipe, and fittings, Gas Company	222.08	
Torches	72.00	
Alcohol	146.50	
Kerosene and matches	215.73	
Carriage-hire, Committee on Lamps	21.00	
Ladders	42.00	
Chimneys, burners, and wicking	75.00	
Printing	6.75	
Oil-cans	6.65	
Sundries	27.07	
Express	3.50	
Salary of Superintendent	526.00	
		$31,763.20
Unexpended balance of appropriation		$236.80

Cash collected for damages to posts and lanterns, and paid into city treasury, $63.42, which, deducted from the amount expended, leaves the actual cost of the department $31,699.78.

The cost per lamp for all expenses of the department was $\$33.72\frac{1}{3}$.

The total number of street lamps now lighted by the city is distributed as follows: —

District 1	146 gas,	13	kerosene.
" 2	142 "	20	"
" 3	132 "	23	"
" 4	153 "	5	"
" 5	134 "	16	"
" 6	146 "	13	"
	853	90	
Belmont District		10	naphtha.
Total			953

The increase for the current year is 47, of which number 27 have been furnished by petitioners for their location, the balance by the city.

The lamps have been lighted on 342 nights during the year, and have been burned for 2,792,467 hours, an average of $3,364\frac{1}{4}$ hours per lamp, burning an average of $9\frac{5}{6}$ hours each night, the lowest number of hours being 7, the highest $13\frac{1}{4}$.

The average cost of gas for each lamp per night has been $7\frac{13}{16}$ cents; of kerosene, $3\frac{3}{4}$ cents.

The expense has been somewhat reduced by a reduction in the price of gas. On the 15th of April, 1884, the Cambridge Gas Light Company voluntarily reduced the price per thousand feet from $2.05 to $1.90, notwithstanding that they have a written contract with the city for $2.05 per thousand feet, which will not terminate until March 25, 1888; this reduction during the seven months from April 15 to November 15 amounted to $872; and for the remaining five months, to April, 1885, will amount to $800 additional; and I would recommend that the amount thus saved ($1,672), together with an additional amount of $1,328, making in all $3,000, be appropriated for the purchase of posts and lanterns, to be located in such parts of the city as may, in the judgment of the Committee on Lamps, require better lighting.

In my report for 1883 I included statements showing the number of street lamps per mile in fourteen cities and towns in

New England, by which it appeared that Cambridge had a less number per mile than other places. We need from 1,000 to 1,500 more street lamps to light our city properly, and the complaint is general that our streets and public squares need more light. There are many streets which are dangerous for travel in the night, and accidents are liable to occur at any time for want of proper lighting, in addition to the danger to person and property from evil-disposed persons operating under the cover of darkness.

I beg leave to quote from my last report a few sentences in relation to what has been the established practice in the matter of furnishing lamps, "under the rule established by the City Council in 1852, and followed substantially to the present time: 'That whenever suitable iron posts and lanterns are erected at such points on any streets in the city as the Mayor and Aldermen may designate, the Mayor is authorized to cause such lamps to be lighted at the expense of the city.' The result of this rule has been that in the business streets of the city, and other streets occupied by resident owners of real estate, the streets are now well lighted; while large portions of the city, inhabited mostly by poorer people, who are either unable or unwilling to incur the expense of posts and lanterns, have been left in darkness; and I would respectfully suggest that a complete lighting of the city would do much towards rendering it a desirable place of residence; and, as an aid to the police force, it would be of incalculable value. In European cities lamps are placed in all dark places, in courts and alleys, to prevent criminals from concealing themselves.

"The city thus far has been lighted by the co-operation of private persons and the public, — the former providing the posts and lanterns, the latter paying the expense of lighting. It is manifest that there are many parts of the city where the abutters are unwilling or unable to bear any part of the expense. The public, the traveller, the stranger, need the benefit of street lamps. A change in the policy of the city, and the putting up lamps wherever needed, would work no injustice to those who have already erected lamp-posts at their own expense, for they have enjoyed, and will continue to enjoy, the benefit of all for which they have paid, and their share of the expense of performing a public duty would be slight.

"It was formerly the practice to lay crossings where the abutters would furnish the stone; but it soon became apparent that for one abutter there were thousands of travellers who needed the accommodation, and the wiser practice has for a long time prevailed of putting down crossings where the public needed them, as a part of the street. No one has ever objected upon the ground that he had once been obliged to pay for the stones of a crossing near his own house. Is it not time to adopt a similar rule in relation to street lamps?

"I believe the time has come when the custom of confining the increase of street lamps to parties petitioning and paying for the same should be changed, and the city pursue a more liberal policy. The citizens desire better lighted streets, and the assessment of the small amount necessary to be expended annually to accomplish this purpose will, I think, be cheerfully acquiesced in by the tax-payers, thereby securing better lighted streets, and making the city safer by night."

It is well known that a partial lighting of the streets of a city, while of some use to those well acquainted with the particular locality in which they are walking or driving, is a source of danger to strangers and those not so acquainted.

One who drives through the streets of a village imperfectly lighted, and thence out into the open country, experiences a feeling of relief and a sense of security in escaping the half shadows which have bewildered him. His eye becomes accustomed to the darkness, and he can more readily judge of distances than he could in an insufficient and imperfect artificial light. Even in our best-lighted streets the foot-passenger is in danger at the crossings, for the simple reason that he is tempted to rely upon what professes to be a sufficient protection. The driver of a carriage may be able to see another carriage, or any object of equal size, but he entirely overlooks the person on foot, who, in turn, reasoning incorrectly, supposes the carriage which is seen indistinctly to be at a greater distance than it really is.

The money expended in partially lighting our city cannot be said to be thrown away, but it can hardly be said to be judiciously spent.

During the past year the Committee on Lamps has erected twenty lamps at the expense of the city in locations where they

were much needed ; but to light the city properly, we ought to erect at least one hundred per annum for the next ten years. The expense of so doing would not be appreciably felt by the tax-payers, and at the end of that time we should approach somewhat to a proper condition as to the lighting of our streets. Such a course would do much to render our city a desirable place of residence, and the additional light would also be of great value in increasing the efficiency of the police force.

Among the places where more light is, in my opinion, desirable are the following : Concord Avenue, from Wyeth to Wellington Street, a distance of nearly one and a half miles, without a single light ; Dublin Street, from Garden Street to the Fitchburg Railroad crossing, over half a mile, has but two lights ; Walden and Reservoir Streets, from Hubbard Avenue to Highland Street, a distance of nearly one mile, are without light. These streets are all used for public travel by night, and should be well lighted to insure the safety of those using them. There are other streets upon which the lighting can be safely postponed for the present, but which will require attention in the future, — such streets, for instance, as Vassal Lane, Fresh Pond Lane, Lexington Avenue, Hawthorn Avenue, and other streets which are laid out, but not yet built upon.

In addition to a wider distribution of the street lamps, many citizens call for a more powerful light, and look with longing eyes upon the electric lights now in use in many of our large cities. While this is very desirable as a means of lighting our streets, in my opinion the expense of maintaining it will for many years prove to be an insuperable objection to its general use.

The cost of maintaining an electric light in Boston is fifty-six cents per night, and each light takes the place of two gas-lamps which are located about 150 feet apart, in the business parts and thickly settled portions of the city ; while the average distance between the lights on the business streets of Cambridge is 200 feet. If Cambridge should adopt the electric light, it will certainly require at least one electric light for every two gas lights displaced. The cost of maintaining a gas light is about eleven cents per night for gas and care ; consequently the adoption of the electric light would involve, so far as it might be substituted for gas, an increased expenditure in this department of almost

three times the present cost. While we should get a much better light, I am of the opinion that it is the wiser course to extend our present means of lighting more widely before we incur this extra expense.

Complaint is sometimes made that the lanterns are not kept as clean in Cambridge as they are in Boston; and while it is not impossible to have our lanterns kept in the same condition as they are in Boston, it involves a much greater amount of labor on the part of those who have the care of them. Unlike Boston, we have no paved streets, and consequently there is a much greater amount of dust which lodges in the lanterns, so that at times the lanterns may not appear to so good advantage; but I am sure that this portion of the work has not been neglected. The work of the department is performed by twelve men, who are paid sixty-five cents per lantern per month, each man having an average of seventy-eight lanterns. For this sum they are required to light and extinguish the lamps at the hours designated by the Superintendent, to keep the lanterns properly cleaned, and make report weekly to the Superintendent of the Cambridge Gas Light Company of the number of hours which the lamps in their charge have been burned. One hour is allowed each man to light, and one to extinguish the lights in his charge. Owing to the great distance between the lights, he is obliged to have additional assistance to do this part of the work in the time allotted, reducing his compensation by so much.

It has always been my aim to have the duties performed in an efficient and satisfactory manner, and I hope I have succeeded in satisfying the public that I have secured the best results attainable with the means at the disposal of the department.

BENJAMIN F. NOURSE,

Superintendent of Lamps.

REPORT

OF THE

SEALER OF WEIGHTS AND MEASURES.

To his Honor the Mayor and the Board of Aldermen of the City of Cambridge: —

GENTLEMEN, — In connection with the Deputy Sealer, and in the performance of our duties, I have visited during the year ending Nov. 30, 1884, 403 places where scales, weights, and measures are used, and have

Sealed	869 scales.	Adjusted	88	Condemned	2
"	3,343 weights.	"	96	"	25
"	62 dry measures.	"	6	"	3
"	163 liquid measures.	"	4	"	4
"	13 coal-boxes.				

The city scales in various parts of the city have been sealed, repaired, and adjusted, and office work, which increases from year to year, has been attended to.

The fees collected, amounting to $291.73, have been paid into the city treasury.

State Property in Possession of the Sealer.

One balance.
One set avoirdupois weights.
One set liquid measures.
One set dry measures.
One brass yardstick.

City Property in Possession of the Sealer.

One cabinet.
One test scale and box.
One ton iron weights.
One lathe.
One set brass weights in box.
One five-pound weight.
One twenty-five and two ten pound iron weights.
Lot of tools and stamps for sealing and adjusting.
One sun-shade for wagon.

Respectfully submitted,

B. F. NOURSE,
Sealer of Weights and Measures.

REPORT

OF

THE INSPECTOR OF MILK.

To the Honorable the Mayor and City Council of Cambridge: —

The undersigned respectfully submits his fifth annual report as Milk Inspector.

The supply of milk during the past year has been unusually abundant, and for only one short period was there a limited supply. The average quality has been, to say the least, decidedly good. Of course I find occasionally in some stores and among some dealers milk of lower standard than that required by law. Among this class I have made special work, and was enabled by so doing to change materially the quality sold; and for some time past the milk found in these locations is of good quality, giving general satisfaction.

The wholesale dealers above referred to, on complaint, invited me to inspect their daily gatherings of milk as it came from the farmers or producers. I made several visits to West Somerville, Arlington, Lexington, Waltham, and Concord, and inspected the supply as it was received from the farmers. The result of the inspection showed that some of the dairies furnished the poorest milk I ever examined, showing in several cases an addition of from 15 to 40 per cent of water.

The milkmen immediately declined to receive further supply from these parties, and were supplied from other sources, thus benefiting the consumers, who were the complainants.

The price of milk at the cars, commencing April 1st, was 34 cents per can, while the price to the stores was from 40 to 42 cents per can, and families were supplied generally at 7 cents per quart. October 1st the price at the cars was 40 cents, the stores paying 48 to 50 cents, and families 8 cents per quart. The retail price at the stores for milk is generally one cent per quart below that of the regular dealers who deliver at residences.

The supply furnished by stores is yearly becoming less, most people getting their full supply from the regular milkmen, thus showing that my recommendations in former reports are being followed, for the fault, if any, can be directly traced and remedied; and when there is cause, and the milkman is informed of the complaint made to the Inspector, he will look more closely to the supply he receives, and the consumers are benefited thereby. Whereas, if prosecution took place, and he was able to effect a compromise (as is often the case by payment of costs only, the fine being remitted), he would follow in the same footsteps as before, and take his chances. Most of our dealers are, I believe, honorable men, and intend to do right; but in many cases the actual source of complaint is traced beyond them, and out of my jurisdiction.

No complaints were made of fraudulent sales of oleomargarine or adulterated butter. The article is bought and sold as a mercantile product, giving general satisfaction to consumers.

Inspection of milk at the office and at my residence has been generally taken advantage of by a large number of our citizens, who, being interested in the work, materially assisted the Inspector in the discharge of his duties, and at the same time obtained information which I am always happy to give to all who furnish me with a sample. Seven hundred and nineteen visits were made to stores, for the purpose of inspection, during the year, and a marked improvement was generally apparent among them all.

Many milk routes were consolidated during the past year, in consequence of persons going out of the business; and there were fewer changes than in former years among the stores, as will be seen by the registration for the year: Wholesale dealers registered for the year ending November 30th, 201 ; retail dealers

or stores, 28; in all, 229, — from whom was received the sum of $114.50 as fees.

Thanking you for uniform courtesy and assistance in the discharge of my duties, I am

Respectfully yours,

JOHN H. FARRELL,
Milk Inspector.

CAMBRIDGE, Nov. 30, 1884.

REPORT

OF

THE INSPECTOR OF VINEGAR.

To the Honorable the Mayor and City Council of Cambridge : —

So great an interest has been manifested in the purity of vinegar sold for our daily consumption, that the law has been so amended as to create a lawful standard quality, as will be seen by the following : —

Acts of 1884.

[Chap. 307.]

An Act to prevent the Adulteration of Vinegar.

Be it enacted, etc., as follows : —

Sect. 1. No person shall by himself, his servant or agent, or as the servant or agent of any other person, sell, exchange, deliver, or have in his custody or possession with intent to sell or exchange, or expose or offer for sale or exchange any adulterated vinegar, or label, brand, or sell as cider vinegar, or as apple vinegar, any vinegar not the legitimate product of pure apple juice, or not made exclusively from apple cider.

Sect. 2. All vinegar shall have an acidity equivalent to the presence of not less than five per cent by weight of absolute acetic acid, and in the case of cider vinegar shall contain in addition not less than one and one-half per cent by weight of cider vinegar solids upon full evaporation over boiling water, and if any vinegar contains less than the above amount of acidity, or if any cider vinegar contains less than the above amount of cider vinegar solids, such vinegar shall be deemed to be adulterated within the meaning of this act.

Sect. 3. It shall be the duty of the inspectors of milk who may be appointed by any city or town to enforce the provisions of this act.

SECT. 4. Whoever violates any of the provisions of this act shall be punished by fine not exceeding one hundred dollars.

SECT. 5. All acts or parts of acts inconsistent with this act are hereby repealed. [*Approved June* 2, 1884.]

The force of the above amendment of the laws regulating the sale and to prevent the adulteration of vinegar has caused a decided interest among our retailers to learn the quality of goods they were buying, and the liability they were under for selling an inferior grade.

A large number of samples were brought me for inspection, and the majority of them proved to be below the lawful standard. In all of these cases I ordered a discontinuance of sale, and advised a return of the goods, which was accordingly made, and a lawful article bought in its place.

My apparatus for testing vinegar is quite complete, and parties bringing me samples can have them tested in a few minutes, and they can learn the exact quality of the goods they are using or selling.

I have to congratulate our people that we have now got the law where it means protection. The result will be to rid the market of all the poorer grades that have been sold for years, which, while not properly coming within the provisions of the old law, were of such inferior quality as practically to work great injury to consumers.

In my last report I suggested that a lawful standard would be the best means to protect our people and regulate the sale, and I am pleased that our Legislature saw the wisdom of amending the law, thus giving the protection sought.

Respectfully submitted,

JOHN H. FARRELL,
Inspector of Vinegar.

CAMBRIDGE, Nov. 30, 1884.

REPORT

OF

THE SCHOOL COMMITTEE FOR 1884.

In obedience to a law of the Commonwealth so requiring, the School Committee of Cambridge presents its report of the public schools of the city for 1884.

The report is chiefly a compilation of the reports of the chairmen of the several sub-committees into which the School Board is divided; the compiler simply arranging, abridging, or amplifying said reports of sub-committees, according to his judgment, and adding such suggestions as to him seem fitting.

The schools, the past year, have continued unchanged, under the same general management, pursuing the same course of study as heretofore, with as good results as could reasonably be expected under all the attending circumstances.

The teachers, as a whole, are faithful and painstaking, and when we take into account the disadvantages under which many of them labor, consequent upon the ill-arranged and crowded schools over which they are placed, we must confess that, in many cases, we are surprised at the amount and character of the work accomplished.

We have in Cambridge, we believe, more than our proportionate share of conspicuously able teachers, — teachers who show a special aptitude for the duties of the school-room; always laboring under a present sense of responsibility, they do their work thoroughly and well, and seldom fail to reach and mould the children committed to their care. These are the ones who are ever discovering and reaching the better nature in rough, boisterous, and neglected pupils, and who counteract the evil influence of the street by wholesome precept and kind word, turning to decency and respectability those who were drifting

toward the ranks of the ignorant and criminal classes. There is no better opportunity or means at the public control to rescue the poor neglected children of vicious parents from vice and degradation, and hold them from drifting, than is presented in the school-room to the public-school teacher. Should it, not, then be the bounden duty and privilege of school officers to see to it that only teachers of strength and power be placed in positions of such responsibility? It is well known that strong teachers are most difficult to secure, and often, in spite of our best intention and judgment, a weak appointment is made, and having been made is tolerated. Nevertheless, we should hold and adhere to a high standard in our appointments. We have many teachers who show no natural aptitude for school work; yet they are faithful and intelligent, and secure good results, but not always by the best means, for they fail to awaken their pupils, instructing merely, but not disciplining or moulding them, and consequently fall far short of the highest ends of education.

Still another class are amiable and pleasant people, who seem to mean well, but have not the proper control of themselves, showing, by speech, manner, and act, a sad defect in their own early training; these are always trying, yet accomplish but little, for they lack knowledge of the art of teaching, and possess little conception of the work of the school, and should never be there as teachers.

The latter class, we are gratified to state, is very small in our city; yet it is found here, and while the teaching can by no means be called a failure, still it is evident that the pupils are not strengthened, and do not receive that degree of mental training and moral discipline our schools should give.

Different degrees of excellence in the methods of teaching, and a widely different spirit and purpose, are observable in the different schools of even the same grade. Many of these schools, also, exhibit special and well-defined characteristics peculiar to themselves, some standing out as admirable features of the school, others of doubtful utility, but all traceable to the individual characteristics of the teacher whose activity gives them currency. This feature is more marked in the primary schools than in those of higher grades.

When we see and contrast the work and influence of our ablest and most intelligent teachers in schools of this grade with

that of indifferent teachers of little or no experience for the work, we can hardly fail to be impressed with the paramount importance of securing the right person in the right place. We are ready to condemn as fallacious the notion, prevalent in the community and even among school committees, that primary schools do not require experienced teachers; but that almost any bright girl graduate of the High School will do well enough to teach the "little folks."

The fallacy of such opinion has been recognized for years past by members of this Board, and the necessity felt of adopting some method to improve and strengthen the foundation of our school system; hence a first step in this direction has already been taken by increasing the salary of the primary-school teachers, making it equal to that of assistants in the grammar schools. By this means it is hoped able and experienced teachers may be procured for this lower grade, — teachers, if possible, possessing the necessary qualifications of mind and heart, culture and experience.

The effect of wrong and defective methods of teaching at this point in the pupil's course is productive of greater and more lasting injury than in the more advanced classes; the mental faculties of healthy children are aroused and intensified at the discovery of every new fact, and are ever bent upon finding enjoyment in something. The important question now is, What is the best and fitting food for such minds? The intelligent teacher, recognizing that "as the twig is bent the tree is inclined," is ever watchful to supply this mental activity with such fitting nutriment as will awaken useful thought and shape and control future conduct.

Defects in manner and in the use of language, as indeed almost all defects acquired in early youth, are observable throughout the child's school advancement, and often through life.

Since, therefore, the primary school is the threshold of our public-school system, and since here is laid the foundation of the child's education, the entrance should be made pleasing and attractive to him. His first notion of books and study should be made agreeable. His better nature should be reached and quickened. Correct methods and habits should be taught him, and a mental appetite aroused that would urge him on through

life in search of knowledge and truth. Correct habits of observation and sense of propriety and becoming conduct, with proper notions of right and wrong, as well as of the civility due his associates, can and should be taught every child in our public schools, and indeed are so taught by many of our teachers. But we regret to find the above graces are wofully neglected by many others, to the great detriment of their pupils; for it is much easier to learn a good habit than it is to unlearn a bad one.

The work well done in lower grades makes the work in the higher attractive, and easy to both pupils and teachers. It is not unusual to find teachers in our grammar schools encumbered and retarded in the work of their own grade by the introduction of a class of poorly or wrongly instructed scholars from a lower grade, although such a class may have, and really has, passed the necessary examination for promotion; yet the conscientious, intelligent teacher soon discovers among the new comers the effect of loose and careless instruction, and is compelled to go to work and teach anew elementary matter in conduct and language in which the pupils should be well grounded. Our primary schools should do well and accurately what they are intended to do. If the work here is well done, the foundation well laid, the child is well equipped to advance easily and with profit. When he reaches the grammar school, he should have some sense of propriety as to action and language. His ideas, as far as he possesses any, should be correct. He should be capable of controlling his attention, and his power of observation should be active and quickened.

But to accomplish all this, which is necessary and reasonable to be accomplished, requires teachers of cultivation, experience, and knowledge. Hence the necessity on the part of the committee to use the greatest care and best judgment in selecting teachers.

The Grammar School

stands next in importance to the primary in our public-school system. It is here by far the larger portion of the men and women of the present day throughout Massachusetts and New England completed their education.

Those sharp, active, clear-headed, intelligent, useful men who

surprise foreign visitors to our shores by their intense activity, intelligence, and self-reliance never carried their mental training beyond the grammar school.

Those schools have done in the past, and are now doing, important work in preparing the youth of the land to become intelligent, self-supporting, honest men and women.

We believe that in Cambridge, the past year, our grammar schools have done, on the whole, a good, faithful work; the teachers, male and female, having been faithful and painstaking, have accomplished satisfactory results. We hazard nothing in stating that there are no harder-worked men and women in the community than the teachers in the grammar schools of the city.

Here, as in the lower schools, may be seen a diversity among the teachers as to capacity and aptitude for the particular work. In the room adjoining that of an indifferent or fairly good teacher may be seen one of marked efficiency, exhibiting refinement and kindliness of manner, good judgment, accurate discernment, a clear mind, good discrimination, a correct use of language, with power of clear statement, and the ability to reach and mould the pupils.

After visiting such a teacher,—and we have many such in our city, — we can hardly fail to be impressed with the great value of qualified instructors in our schools.

Teachers in grammar schools should have some knowledge of the theory and practice of teaching, and should have a correct *use*, as well as knowledge, of the English language, and possess the necessary judgment to enable them to discriminate as to the essentials and non-essentials in the subjects studied, insisting only upon the important and fundamental facts, rejecting the unimportant and unnecessary details. Especially is this sifting process to be observed in the study of language, history, and geography, by which time is gained and better results obtained.

The public schools were established by the founders of our free Commonwealth to make possible the perpetuity of such a Commonwealth, and that these founders did not design all the aim and purposes of such schools to be for intellectual training only, is clearly apparent from the following extract from the Public Statutes of this State, viz.: —

"It shall be the duty of . . . all instructors of youth to exert their best endeavors to impress on the minds of children and youth committed to their care and instruction the principles of piety and justice and a sacred regard to truth; love of their country, humanity, and universal benevolence; sobriety, industry, and frugality; chastity, moderation, and temperance; and those other virtues which are the ornament of human society and the basis upon which a republican constitution is founded; and it shall be the duty of such instructors to endeavor to lead their pupils, as their ages and capacities will admit, into a clear understanding of the tendency of the abovementioned virtues to preserve and perfect a republican constitution and secure the blessings of liberty as well as to promote their future happiness, and also to point out to them the evil tendency of the opposite vices." (Chap. 44, sect. 15, of the Public Statutes of Massachusetts.)

Thus the law of the State not only grants to teachers of youth the fullest authority as to moral training, but *requires* that the children be taught temperance, morals, and all the other virtues essential to decency and Christian society. It is here, we think, too many of our teachers have fallen short of doing their full duty by the youth committed to their care, probably because committees have failed to direct attention to this requirement.

Would it not be well to have the foregoing extract from the Public Statutes printed, and a copy supplied to every public-school teacher in the city?

It is our bounden duty to secure for our schools the best teachers obtainable who are adapted to the work, and capable, both by precept and example, not only to guide and direct the intellect, but to shape and train the morals and manners of the pupils committed to their charge.

The civilities and manners of good society should be taught in the school-room, by example and precept; the value of pleasant speech and pleasant manner toward each other is as important for the child to know as the value of one hundred francs in federal money.

The great aim and effort of the age is knowledge for the people, and since the grammar school may be called the school of last resort, — virtually the university of the great mass of the

people, — its efficiency and usefulness should be maintained and strengthened. Strong, capable teachers should instruct here, — teachers of high culture and accurate scholarship, who have a love for the work, and above all a realizing sense of its importance and of the unsurpassed opportunities it presents of moulding character and of shaping and directing the purposes of the coming men and women of our country.

Pupils learn in school from the teacher's own example, manner, and mode of expression. The knowledge imparted should be of the best; a proper use of language and clear statement should always be required. Writing is exceedingly well taught in all the schools, and the result is very creditable. Reading, a subject of paramount importance, might be taught to better advantage, and a taste for good reading imparted. Something should be attempted to give our school children a relish for better and more wholesome reading than the debasing dime novel and sensational story paper that pervert the morals and degrade our youth. The teachers have it in their power, at least, to make the attempt to overcome the evil influence of the vile trash that reaches the hands of the young, by laboring to give them a relish for something higher, and a knowledge of the existence of entertaining and elevating books, by apt and interesting quotations from good books, by commenting on the same, and indicating where said books may be found. A taste in this direction is of priceless value to the possessor all through life.

"Were I to pray for a taste which should stand me in stead, under every variety of circumstances, and be a source of happiness and cheerfulness to me during life and a shield against its ills, however things might go amiss, and the world frown upon me, it would be a taste for reading.

"Give a man this taste, and the means of gratifying it, and you can hardly fail of making him a happy man, unless, indeed, you put into his hands a most perverse selection of books. You place him in contact with the best society, in every period of history, — with the truest, the wittiest, the tenderest, bravest, and the purest characters who have adorned humanity. You make him a denizen of all nations, a contemporary of all ages. The world has been created for him." (Sir John Herschel, from his Address on the Opening of the Eton Library, 1833.)

Notwithstanding the good work now done in the grammar schools, it is quite possible to make them still more efficient by requiring a high degree of qualification in appointees to the position of teacher, giving each candidate an examination as to literary qualifications before nomination, and supplementing this by our present examination before confirmation. A livelier interest and a closer supervision of the schools on the part of the School Committee would work no harm.

The rearrangement of the present course of study would be productive of some good. A large number of those who enter these schools drop out before completing the course. The course as at present arranged does not confer the benefit upon this large class that it should and can. This is entirely a matter within the control of the Board, and will doubtless receive the attention it merits.

High School.

The High School, which for many years has ranked among the first of its class in the State, is still in a prosperous condition.

Mr. Bradbury, who has been connected with the school for a long time both as classical instructor and principal, understands well its wants, and his efficiency is manifest in every department. The general organization of the school remains about the same as in past years. It has fifty pupils more than it had a year ago. To accommodate this increase it became necessary to send out thirty-five of the pupils. These now occupy a room in the third story of the Harvard Grammar School-house, and are under the care of Miss Louisa P. Parker, who for several years has been a successful teacher in the High School. Her former room in the basement of the High School building is in charge of Miss Clara Bancroft, who was appointed a teacher last September. Miss Bancroft is a valuable addition to the corps of teachers.

It speaks well for the efficiency of our purchasing agent to record, that, notwithstanding the increase in number and the additional labor of supplying text-books to the pupils in accordance with the new law, every pupil received his books on Monday, September 8th, had his three lessons assigned for Tuesday, and on Tuesday had his three recitations in regular order in

accordance with the programme, which has been continued from that day to this without material change.

The addition of one teacher only to the number of teachers is not proportional to the increase of fifty to the number of pupils. Some of the divisions number thirty-two, — a number much too large to be either held or instructed to the best, or even to good, advantage.

Thus still more than last year the High School is cramped for want of room. A colony is out; every room in the building is occupied, and some rooms not only not fit, but entirely unfit and unhealthy, for both teachers and pupils. One room in the basement especially is dark, damp, gloomy, and ill-ventilated, which the High School Committee was compelled to utilize for school purposes, though at the risk of the health of the occupants.

By the kindness of President Eliot and the authorities at Harvard University, Sanders Theatre was thrown open, free of expense, for the graduating exercises of the school at the close of the school year in June. Here 77 graduates received diplomas in the commercial department, 44 in the English (four years' course), and 20 in the classical.

Of the 44 graduates in the English course, 7 have entered normal schools. Of the 20 in the classical department, all the boys passed examination for admission to Harvard College, and all the girls but 1, who is at Wellesley, passed examination for admission to the Annex. Of the 20 in the classical course, 14 passed their examination for college without conditions. In the 343 papers written by these 20 graduates, there were only 8 conditions; not one of which was in the classics or the mathematics.

In the classical department, reciting separately from the other departments of the school, there are at the present time 70 pupils, forming 10 of the 63 different divisions.

These 10 divisions are heard by 5 different teachers. No one of the 13 teachers of the school devotes more than three fifths of his school time to the classical department alone.

In the English department two hours each week are given to exercises in English. Since 1876, the first three-quarters of an hour of every Monday is devoted to recitation from English authors, and to dictation or other exercises in English composi-

tion; reading is also substituted once a week for one of the regular studies. This year the fourth class is reading Scott's Lady of the Lake; the third class, Hawthorne's Twice-Told Tales and Dickens's Christmas Stories; the second class, Addison's Roger de Coverley and Goldsmith's Traveller and Deserted Village; the first class, Tennyson's Princess, and after March 1st this class will have, every other day, a recitation in Shakespeare. In addition to this, compositions are required, to be written out of school, in some classes as often as once a month, and exercises innumerable from their History and Latin and French authors.

The books authorized by the School Committee for use in English literature are: Addison, Shakespeare, Milton, Goldsmith, Scott, Campbell, Gray, Byron, Burns, Dickens, Macaulay, Tennyson, Hawthorne, Irving, Bryant, Longfellow, Lowell, Whittier, Hill's Punctuation, and such other standard authors as may be required for admission to Harvard College or may be approved by the High School Committee.

In addition to the specially assigned work in English, every translation from Latin and French — every sentence spoken in recitation, if in any respect incorrect — is made the basis for a discussion of the proper use of our mother tongue. In the classical department the preparation in English is made to conform to the requirements for admission to Harvard College, and the manner in which the candidates from the Cambridge High School pass these examinations is sufficient evidence that the work is well done.

The course for the English department includes the History of England and Swinton's "Outlines of the World's History." These together make nearly one recitation a day for a year.

With the exception of changing the three years' course to a two years' course, no essential change has been made in the courses of study established by the School Committee more than ten years ago. The foregoing is a statement of what is done at the head of our public-school system, and speaks well for the opportunities offered the youth of our city to acquire an education and mental discipline, the necessary result of accurate training and drill so important to every intelligent man and woman. Correct habits of thought and accurate methods of expression

are here insisted on; the master's own manner in his class-room awakens and impels mental activity and clear statement; a spirit of intense interest is apparent in almost all the departments of this school. The corps of admirable assistants is well equipped for its special work, and well and faithfully is that work done. Several of these assistants, after many years of faithful service, are laboring to-day with the zeal and enthusiasm that have always marked their effort. Ideas and principles are impressed upon the pupils; they are taught to discriminate as to the nice proprieties of speech and expression. How can the value of such teachers to the community be measured? Long may they continue to enjoy at least the consciousness of duty faithfully discharged!

The drill and discipline received are admirable. The pupils are given liberty, but are held responsible for it. They are taught how to study, and are required to obtain accurate results; with what success, let the 20 graduates tell who have been tested by a rigid examination for promotion to one of our highest institutions of learning. Result: no failure; 14 perfect; and out of 343 papers written, only 8 conditions; and no condition, but entire perfection, in classics and mathematics. When we consider the amount of care, labor, and drill required to accomplish the above result, so closely approaching to perfection in the work, we feel that in this school the teachers know how to *teach*, and leave little to be desired in this respect.

Inasmuch, however, as some intelligent friends of education are in doubt as to what attention our mother tongue is receiving at the High School, it is fitting to present the foregoing statement to speak for itself.

The great desideratum here is more room, and this need is immediate and imperative; and since the City Government is made aware of the fact, it is hoped it will give the matter that attention its necessity and importance demand.

Text-Books.

The Committee on Text-Books reports that, after the passage of the State law requiring that books be furnished free to all the children in the public schools, the following list was pre-

pared, comprising all the books already in use, and such additions as were proposed by the committee, viz. : —

READING BOOKS.

The Franklin Readers; Swinton's Readers; Monroe's Readers; McGuffey's Readers; Sheldon & Co.'s Readers; Barnes's Readers; Lippincott's Readers; Graded Supplementary Reading; Blackboard to Books; Lessons on Manners; Book of Fables; Hawthorne (American Classic Series); Selections from Irving's Sketch-Book; Evangeline and Snow-Bound; American Prose.

OTHER TEXT-BOOKS.

Higginson's History of the United States; Barnes's History of the United States; Our World (First Lessons); Swinton's Introductory Geography; Swinton's Grammar-School Geography; Swinton's New Language Lessons; Child's Book of Language; First Steps in Natural History and Language; The Franklin Composition and Exercise Books; How to Talk; Eaton's New Primary Arithmetic; Colburn's First Lessons in Arithmetic; Walton and Cogswell's Book of Problems; The Franklin Written Arithmetic; Meservey's Book-keeping; Worcester's New Primary Spelling-Book; Worcester's New Pronouncing Spelling-Book; Worcester's Comprehensive Dictionary; Mason's Music Charts; First Music Reader; Intermediate Music Reader; Independent Music Reader; the American Text-Books of Art Education, with Teachers' Manuals. *Writing Books:* A. R. Dunton's; Payson, Dunton, and Scribner's; Appleton's; Shaylor's.

ADDITIONAL BOOKS FOR TEACHERS' DESKS.

The Bible; American Poems, selected by H. E. Scudder; Ballads and Lyrics, selected by H. C. Lodge; Young Folks' Book of Poetry, selected by L. J. Campbell; Poetry for Children, selected by Samuel Eliot; Memory Gems, selected by W. H. Lambert.

"Swinton's Primary Geography" was substituted for "Our World, No. 1," and "Seaver and Walton's Mental Arithmetic" was adopted in addition to the one already in use.

One of the results of the law will probably be, that in many homes where the children's school-books have hitherto formed their only library, there will now be no books at all ; so that the practice in reading which the children get must be confined entirely to the school hours, which makes it all the more important that there should be a good supply and variety of books for supplementary reading.

Committee on Examination of Teachers.

The Committee on Examination of Teachers has had referred to it, for its confirmation, the names of twenty-two teachers, who were nominated during the year for positions in the grammar and primary schools. Fourteen of these nominees were appointed to grammar schools, and eight to primary. The Committee recommended the confirmation of the eight primary and eleven of the grammar appointments. Two of the grammar appointments were not satisfactory, and one withdrew before all the committee had visited her school.

The committee has given considerable time to the inspection of the manner, methods, and ability to govern of these several teachers. In some cases a second visit has been made, that no injustice might be done the candidate or the school. In a few instances the standard of qualification has not been as high as could be desired in every respect; but in such cases there were modifying circumstances which it was proper to consider, and in no case was a teacher recommended for confirmation unless the committee felt assured that she would do good and profitable work. The city demands that the standard of its schools shall be equal to the best in the State, and it is the duty of its School Committee to see that its instructors are in every way well qualified for their work. The Committee on Examination of Teachers is endeavoring to carry out this plan, and to see that the rules and requirements respecting the employment of teachers are strictly complied with.

Evening Schools.

In compliance with the law passed in 1883 requiring all cities and towns of ten thousand or more inhabitants to maintain evening schools, the committee opened four schools; two in

Ward 3, one in Ward 4, and one in Ward 5. Three of these schools were in session three evenings a week for sixteen weeks; the other being held two evenings a week for the same length of time. The cost of the schools was between $1,200 and $1,300.

In many respects the results secured were satisfactory. The most serious obstacle to be overcome in the management of evening schools seems to be that of irregular attendance. With a view to lessen this evil, the committee, in organizing the schools for the present season (1884–85), changed several of the rules adopted last year. No person is now admitted without a ticket, signed by a member of the Committee on Evening Schools, or by the Superintendent of Schools, and all applications for tickets of admission for persons under eighteen years of age must be made by the parent or guardian. These requirements in a measure keep from the schools a disturbing element, — a class of persons that have no real desire for improvement. Better accommodations should be provided for these schools. They are now a part of the school system of the State; they should therefore be organized and administered in such a manner as to secure the object for which they were established.

The following is a copy of the rules: —

CITY OF CAMBRIDGE.

RULES RELATING TO EVENING SCHOOLS.

Evening schools for adults, and for children over fourteen years of age who are unable to attend the day schools, may be established by the Committee on Evening Schools, subject to the following rules: —

1. No school shall be opened until thirty scholars have previously pledged themselves to attend the same regularly; and any evening school shall be discontinued when the average attendance for the preceding ten sessions has fallen below twenty, unless it is continued by a vote of the Evening School Committee.

2. No person shall be admitted to an evening school without a ticket signed by a member of the Committee on Evening Schools, or by the Superintendent of Schools. Applications for tickets for persons under eighteen years of age must be made by the parent or guardian.

3. (*a*) Any pupil absent four sessions out of ten shall forfeit his membership, and shall not be reinstated without the written consent of the committee in charge of the school, or of the Superintendent of Schools. If under this rule he again loses his membership, he shall not return to school without the written consent not only of the committee in charge of the school, but also of one other member of the committee, or the Superintendent.

(*b*) This rule shall also apply to pupils discharged for disorderly conduct.

4. Any person unable for satisfactory reasons to attend regularly may make special arrangements with the committee in charge of the school. These arrangements, however, shall be written on the back of the ticket of admission.

5. The principal of each school shall preserve the tickets of admission, and the permits for re-admission ; and he shall also keep such records as the committee or Superintendent shall require.

6. Each school shall have a principal and two assistants. The number of additional teachers for any week shall be determined as follows : —

From the average attendance of the preceding week subtract thirty-five and divide the remainder by twelve ; the quotient, excluding the fraction, will be the number of additional teachers that may be employed. Should the fraction be two thirds or larger, one more teacher may be employed.

Cambridge, Nov. 13, 1884.

Truant Officers.

These efficient officers have discharged their duties with fidelity, and their usefulness in connection with our schools is continually made manifest.

Rules and Regulations.

A few verbal changes have been made during the year in the "Rules and Regulations." For the most part, they have been found adequate to the wants of the School Committee, and when they have interfered with any measure considered desirable, it has been found more convenient to suspend than to change them.

City School.

This school numbers, at present, 26 pupils, — 22 boys and 4 girls ; 9 being under sentence. The whole number of different scholars for the year was 36.

These children have made somewhat better progress than usual the past year, and the teacher is commended for her faithful devotion to her duties and the excellent influence on her pupils. It is an open question still, whether we should not benefit our schools by sending a few more thoroughly disobedient and vicious boys, under sentence, to this school, where they can have the benefit of its discipline, and can do less harm to their associates.

Experiment in Industrial Training.

Last February the Cambridge Industrial School Association, through a committee, made a generous proposal to the School Board to furnish a competent teacher, and the necessary tools and equipments, to instruct a class of twelve boys as many afternoons each week as desired.

The proposal was accepted, and referred to the Committee on the City School. An arrangement was made for the teaching of five classes per week until the summer vacation. These boys were selected from all the grammar schools ; and of sixty boys in attendance, but four were withdrawn, and their places were filled by others, consequently there were no vacancies. The average attendance was 97 per cent. Nearly every pupil manifested great interest, and made good progress in the handling and use of tools and working in wood.

Care was taken by the masters to select only such boys as could maintain their standing in the classes with the absence of half a day each week, consequently many boys to whom the training would have been most beneficial were shut out. The experiment received the cordial and careful support of the masters, and the teacher furnished was able and faithful.

Of the results of the experiment it is perhaps too early to give a decided opinion. The reports of the masters indicate some variety of opinion as to the effect of the interruption and absence of the pupils from their respective schools.

If all doubt on this point can be removed, it is certain the boys will be benefited by such training.

Drawing.

A special teacher has lately been appointed for this department in our primary and grammar schools, whose duties commenced with the new year; and it is confidently expected that under the supervision of Miss Balch increased interest will be secured, and visible progress made, in this important study.

Evening Drawing Schools.

The class in freehand drawing opened Oct. 13, 1884, with one hundred and four scholars, eighteen of whom were from the graduating classes of the grammar schools, some of these presenting letters of recommendation from the principals. In this class the High School also is largely represented. These were all provided with desks. The remaining desks were divided among those who were most regular in attendance in previous years. Chairs were provided for about ninety-six, who took the lectures in the early part of the term. After the close of the lectures, this number was greatly reduced, on account of the want of desks. The average attendance of this class has been greater than ever before. Up to the 28th of December there were twenty-three sessions, with an average attendance of about eighty. The subjects taught in this class are perspective, freehand outlining with pencil, and shading of objects in crayon; also industrial designing in outline and color.

The mechanical class opened October 14th with sixty-six scholars; of these, five were from our grammar schools, two of whom brought letters of recommendation. This class is never so largely attended as the other, and therefore could be accommodated with seats and desks. Many of those who registered themselves this year had been students in former years, and they manifest a continued interest in their work.

The instruction given to this class is mostly from the blackboard, in class lectures, after which individual work is taken up. The average attendance up to December 23d was about fifty-five, the number of sessions nineteen.

The subjects taught the class are geometry, isometric and orthographic projection, machine drawing, and building construction.

In both the classes, when scholars have been absent two nights in succession, without presenting a reasonable excuse for such absence, their places have been declared vacant, and filled with waiting applicants.

Music.

The "Independent Music Reader" was put into the hands of the first and second classes of the grammar schools at the beginning of the present year. Nor was this action premature; the "Intermediate Music Reader" having been in use ten years.

In music, more perhaps than in other studies, it is desirable to have fresh supplies of material to work with. So closely connected is verse with its musical setting, that, once learned, both words and music are imprinted upon the memory, and if lost, can be easily recovered. Could arithmetic and history and geography be thus allied to music, with how much less labor might the difficulties of these studies be overcome!

Every one knows how, the desire for reading having been awakened, the child craves a constant succession of new and interesting matter. His cry is still, "I want a new book!" In answer to this demand of a growing appetite and developing taste, new reading books and other literature have been placed in the schools.

But the need exists in music also, and a most decided increase of interest has resulted from the introduction of the new book. In some instances, scholars beg to be allowed to remain after school hours to learn the pieces by the help of the teachers. There is no school in which this impetus is not felt.

Instruction in music is a very different thing from that in former days. It shares in the progress made by teaching in general. A piece of music in three parts, which, twenty years ago, would have required, at least, ten lessons in a grammar school, can to-day be learned by the scholars in fifteen minutes, and rendered in better time, tune, and style. But the day is not far distant when, the novelty being worn off, and the music grown familiar by repetition, another book will be needed.

There are those, whose opinions carry weight in the community as people of thought and culture, who regard the study of music as second only to that of reading in the whole curriculum of common-school studies. If this be true, then should music partake with other studies in the liberal supply of supplementary matter, now held to be essential to their successful prosecution.

While our girls are by no means inferior in singing, the boys are steadily gaining in courage and ability to sustain their parts; and the demand for them in church choirs is constant, where, not to mention the regular instruction furnished them by choir masters, they receive salaries commensurate with their talent as singers.

The Training Class.

The recommendations of the Superintendent in his last annual report (see page 31) were substantially adopted, and the results have been satisfactory.

The committee on the Training Class having been empowered to carry out the plan suggested by the Superintendent, proceeded to organize the school in the new brick building on Columbia Street.

This building contains seven school-rooms and three class-rooms, and has been named the Wellington School, in honor of Dr. W. W. Wellington, formerly a member of the School Board, and now, as for many years past, its secretary.

The school, at present, consists of two hundred and fifty pupils, under twelve teachers. The principal, Mr. Herbert H. Bates, was the superintendent of schools at Canton, Mass., when he received and accepted the appointment here.

In September, the Training Class Committee was "authorized to expend for salaries an amount not exceeding the aggregate maximum salaries paid to female teachers for the instruction of the same number of scholars in the primary and grammar schools."

In pursuance of the above order, the committee secured the services of an accomplished principal and of the other teachers in the Wellington School, — teachers already competent for good work, and constantly acquiring information and drill as to methods of teaching, and practical skill in the management

of classes. Mostly graduates from normal schools, they constitute a reserve force from which are drawn temporary and permanent teachers, as well as substitutes, always more or less in demand.

Already an evident success, the experiment, in the hands of the principal, will no doubt commend itself more and more to the approval of the committee and to those of the community (would that the number were tenfold greater!) who take an intelligent interest in the working of our school system.

The Committee on Supplies.

This committee was established at the May meeting of the Board, for the purpose of carrying out the provisions of the free text-book law enacted by the Legislature; and this is the substance of its report, as presented to the Board, covering its work up to Oct. 10, 1884.

From the returns received in July from the principals of the several schools, as to the probable number of pupils the next year, and the number of books and slates owned by the pupils that were suitable for further use, the committee calculated, approximately, the number and kind of text-books and the quantity of miscellaneous supplies required for commencing the schools in September. Circulars were then sent to a large number of firms likely to be interested, specifying our needs and soliciting proposals for any or all of the articles required; and the purchases were made on the basis of the lowest bids received. The purchases of text-books were made, necessarily, to cover the probable requirements of the entire school year, and further purchases will be limited to the replenishing of the stock on hand (as may become necessary), and to such new books as may be required for the usual changes in the course of study; but in the matter of miscellaneous supplies the committee decided to buy only enough to supply the schools until the end of the current fiscal year, in order that the deficit in the appropriations for school purposes might be as small as possible. The expenditures of the committee to Oct. 10, 1884, were as follows: —

Text-books	$9,384.46
Miscellaneous supplies	2,177.58
Drawing-books	466.03
Writing-books	418.09
Slates and erasers	124.67
Cartage and expressage	67.20
Record-books	56.09
Printing	33.25
Total expenditures	$12,727.37

For account of the several schools, as follows: —

High and Grammar Schools.

Names of Schools.	Text-books.	Writing and Drawing Books.	Miscellaneous Supplies.	Total.
High	$1,666.39	.....	$134.76	$1,801.15
Allston	753.73	$112.55	91.94	958.22
Corlett	83.85	17.35	12.90	114.10
Harvard	925.17	128.97	93.17	1,147.31
Putnam	694.84	94.17	88.46	877.47
Shepard	645.95	85.65	85.34	816.94
Thorndike	727.70	105.96	86.37	920.03
Washington	775.58	111.00	84.01	970.59
Webster	891.01	130.55	107.58	1,129.14
Total for High and Grammar	$7,164.22	$786.20	$784.53	$8,734.95

Primary Schools.

Names of Schools.	Text-books.	Miscellaneous Supplies.	Total.
Agassiz[1]	$175.78	$25.62	$222.40
Boardman	96.85	7.07	103.92
Bridge	34.49	.98	35.47
Cushing	37.23	1.07	38.30
Dana	37.79	1.25	39.04
Dunster	39.03	1.44	40.47
Felton	38.99	2.65	41.64
Gannett	46.53	2.06	48.59
Gore	108.10	18.22	126.32
Holmes	41.39	1.73	43.12
Lassell	48.63	4.97	53.60
Lowell	41.39	1.22	42.61
Mason	41.43	1.37	42.80
Otis	87.33	3.12	90.45
Quincy	41.13	2.75	43.88
Reed	41.09	2.04	43.13
Riverside	49.23	3.51	52.74
Sargent	41.39	1.56	42.95
Stearns	46.23	2.05	48.28
Tarbell	44.43	2.23	46.66
Wellington	31.19	24.38	55.57
Willard	111.00	14.90	125.90
Wyman	49.83	3.26	53.09
Total for Primary Schools	$1,330.48	$129.45	$1,480.93
Total for High and Grammar Schools			8,734.95
Stock on hand[2]			2,411.04
Expenditures for printing and expressage			100.45
			$12,727.37

[1] The total for the Agassiz School includes $21.00 for writing and drawing books for the grammar classes in that school.

[2] The stock on hand is as follows: Text-books, $889.76; writing and drawing books, $76.92; miscellaneous supplies, $1,444.36; making the total as given, $2,411.04.

The purchasing, receiving, and distributing of these text-books and supplies involved an amount of detail quite beyond the expectation of the committee, and they have a pardonable pride, therefore, in stating that, with few exceptions, all the text-books required were in the several schools, ready for use, on the first day of the term. The exceptions were caused by delay on the part of certain publishers who were unable to fill our orders, although forwarded three weeks before the schools began.

Accounts have been opened in which each school is charged with the cost of all books and supplies, as furnished, and circulars have been issued to each teacher containing such instructions and suggestions as, in the opinion of the committee, would conduce to the proper execution of the text-book law and to the protection of the interests of the city.

An agent has been employed, at a salary of $1,200 per annum, to attend to the details of the work of the committee, in accordance with the rules of the Board (chap. I. sect. ix.); and, although his term of service has been short, the committee are of the opinion that the wisdom of this step has already been clearly shown. The personal examination by the agent of the books at each school is expected to have a good effect on the teachers and scholars, and will undoubtedly result in a more careful use of the property of the city, to say nothing of the work of attending to the care and distribution of the books and supplies, which, otherwise, would necessarily fall upon the Superintendent, and thereby deprive the city of much of his valuable time. Some cities and towns have adopted a plan of obtaining all their books and supplies through some one jobbing house, paying a commission of five per cent on the amount expended. Such an arrangement for Cambridge would involve an expense of more than two thirds of the salary paid our agent, and it may well be doubted if the interests of the city would be as carefully protected as under the system now in vogue.

As yet the committee have no fixed schedule by which to furnish the schools with miscellaneous supplies, such as stationery, blank-books, pencils, etc., and they have adopted, therefore, the plan of furnishing the quantities asked for by the several teachers, and will so continue until some average can be

arrived at; relying on the teachers to prevent any extravagant use or waste of the property of the city.

The system which the committee have adopted in the performance of their duties is, of necessity, experimental, and subject to change wherever an opportunity is seen for improvement. To this end they will gladly receive any criticisms or suggestions tending to benefit the public schools or the city.

JAMES A. FOX, *Chairman ex officio.*

School Committee.

FRANCIS FLINT,
JOHN L. HILDRETH,
GARRETT A. NAGLE,
PHEBE M. KENDALL,
HENRY N. TILTON,
BENJAMIN F. TWEED,
WILLIAM E. DOYLE,
FREEMAN HUNT,
EDWARD B. MALLEY,
MOSES D. CHURCH,
SARAH S. JACOBS,
ASA P. MORSE,
ALBERT M. BARNES,
MICHAEL CORCORAN,
WILLIAM A. START,

TABULAR VIEW

OF THE

PUBLIC SCHOOLS OF CAMBRIDGE,

JANUARY 1, 1885.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1885.
High School.	William F. Bradbury.....	$2,800	477
	Theodore P. Adams.....	2,000	
	John Orne, Jr.	1,700	
	Edwin L. Sargent.....	1,700	
	Solon F. Whitney.....	1,700	
	Mary F. Peirce	950	
	Emma A. Scudder.....	950	
	Hannah Gleason.....	950	
	Emma F. Munroe.....	950	
	Mary C. C. Goddard.....	950	
	Margarette M. Leighton...	950	
	Louisa P. Parker.....	950	
	Clara Bancroft.....	950	
Allston Grammar.	Benjamin W. Roberts	1,900	529
	Mary I. Vinton	700	
	Sara A. Bailey.....	570	
	Mary M. Brigham.....	620	
	Mary Blair	620	
	Carrie Close.....	620	
	Hattie F. Fabyan	570	
	Hannah L. Hill.....	620	
	Melissa M. McKinley.....	620	
	Celia F. McFarland	570	
	Emily R. Pitkin.....	620	
	Ida G. Smith.....	620	
	Carrie M. Williams.....	620	
Corlett Grammar.	Fannie P. Browning.....	620	75
	Emma C. Edson.....	620	
Harvard Grammar.	James S. Barrell.....	1,900	671
	Ada H. Wellington.....	700	
	Margaret B. Wellington....	650	
	Susan F. Athearn.....	620	
	Emily F. Damon.....	620	
	Mary F. Emerson.....	620	
	Myra I. Ellis.....	620	
	Clara A. Emerton.....	620	
	Estelle J. French.....	620	
	Frances Fabyan.....	620	
	Elizabeth I. Garcelon.....	620	
	Sarah E. Golden.....	620	
	Caroline Hanks.....	520	
	Cora E. Hosmer.....	620	

Tabular View of the Public Schools. — Continued.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1885.
Harvard Grammar.	Susan E. Merrill	$620	
	Hortense O. Young	620	
Putnam Grammar.	Thomas W. Davis	1,900	476
	Sanford B. Hubbard	1,000	
	Eliza M. Hussey	700	
	Annetta Bruce	570	
	C. E. Doran	620	
	Annie B. Josselyn	620	
	H. Eudora Keep	520	
	Augusta G. Mirick	620	
	Eliza S. Paddack	620	
	Maria E. Spare	620	
	Martha R. Smith	620	
	Alice L. Watts	620	
Shepard Grammar.	Edward O. Grover	1,900	473
	Nellie A. Hutchins	700	
	Frances H. Dawson	620	
	Dana A. Eveleth	620	
	Emily F. Fessenden	620	
	Ellen J. Hunt	620	
	A. Estelle Ingraham	620	
	Ruth E. Lander	620	
	Evelyn J. Locke	620	
	Julia H. Osgood	620	
	Clara A. Peterson	520	
	Sarah A. Rand	620	
Thorndike Grammar.	Ruel H. Fletcher	1,900	532
	Lelia A. Mirick	700	
	Grace W. Fletcher	620	
	Emma A. Hopkins	620	
	Abby A. K. Howard	620	
	Elizabeth G. Hutchinson	620	
	Martha A. Martin	620	
	Mary E. Nason	620	
	Elizabeth P. Regal	620	
	Isabella B. Tenney	620	
	Abby S. Taylor	620	
	Lydia A. Whitcher	620	
	Laura S. Westcott	620	
Washington Grammar.	Daniel Mansfield	1,900	552
	John W. Freese	1,000	
	Carrie H. Hazeltine	650	
	Eldora J. Clark	620	
	Lucy A. Downing	620	
	Emma P. Eaton	620	
	Mary H. Hanks	620	
	Ada B. Holt	200	
	Adeline M. Ireson	620	
	Adelaide A. Keeler	620	
	Adelaide A. Keith	620	
	Hattie Shepherd	620	
	Mary E. Stiles	620	
	Abby M. Webb	620	
	Mary A. Wheeler	620	
Webster Grammar.	John D. Billings	1,900	722

Tabular View of the Public Schools. — Continued.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1885.
Webster Grammar.	Lizzie C. Capen	$700	
	Mary E. Towle	650	
	Marion H. Burnham	620	
	Ella E. Buttrick	620	
	Charlotte M. Chase	620	
	Julia A. Crane	620	
	Alice K. Crosby	620	
	Ella S. Danforth	520	
	Mary J. Folsom	620	
	Esther F. Hannum	620	
	Carrie M. Kingman	620	
	Josephine E. Karcher	570	
	Anna S. Lamson	620	
	Clara E. Matchett	620	
	Alice C. Phinney	620	
	Mary A. Townsend	620	
Agassiz Primary.	Charlotte A. Ewell	670	294
	Harriet A. Butler	620	
	Mary G. Carpenter	520	
	Maria L. Baldwin	620	
	Emma A. Child	620	
	Dora B. Dean	500	
	Rosina C. Karcher	550	
Boardman Primary.	Mary A. Lewis	670	304
	Maria J. Bacon	620	
	Charlotte E. Hezlitt	400	
	Mary E. Jennings	600	
	Elizabeth J. Karcher	620	
	Sarah E. Stewart	620	
	Evelyn A. Sawyer	620	
Bridge Primary.	Elizabeth E. Dallinger	620	90
	Emily C. Dallinger	620	
City Primary.	Julia S. Gushee	620	26
Cushing Primary.	Isadore I. Foster	620	66
	Henrietta A. Hadley	400	
Dana Primary.	Maria F. Williams	620	113
	Abby A. Lewis	620	
	Cordelia J. French	400	
Dunster Primary.	Susan E. Wyeth	620	93
	Sarah B. Waitt	620	
Felton Primary.	Sarah J. Gunnison	630	152
	Fanny C. Hartwell	620	
	Minnie F. Munroe	550	
	Annie M. Tendler	200	
Gannett Primary.	Sarah J. A. Davis	640	162
	Anna M. Jones	620	
	Mary A. Rady	620	
	Carrie H. Smith	620	
Gore Primary.	Frances E. Pendexter	680	477
	Addie M. Bettinson	620	
	Mary A. Bourne	620	
	Anna E. Callahan	500	
	Sarah D. Graham	620	
	Elizabeth B. Galm	600	
	Lizzie J. Hawkins	620	

Tabular View of the Public Schools. — Continued.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1885.
Gore Primary.	Mary E. Mulloney	$620	
	S. Louise Regal	500	
	Louise A. Stickney	500	
Holmes Primary.	Marianne M. Webb	640	183
	Mary L. Bullard	620	
	Ellen M. Cyr	620	
	Isabel Foster	550	
Lassell Primary.	Nellie F. Ball	640	208
	Ella R. Avery	620	
	Cora A. Reycroft	620	
	Frances E. Whoriskey	620	
Lowell Primary.	Winona Abercrombie	640	114
	Lucy E. Cyr	500	
	Nellie F. McCarthy	400	
Mason Primary.	M. Lizzie Evans	620	119
	Josephine H. Davis	620	
	Annie C. Teel	550	
Otis Primary.	Luvia Goodnow	680	380
	Fannie Allen	620	
	Martha H. Butler	620	
	Josephine M. Doherty	620	
	Ellen N. Leighton	620	
	Luella M. Marsh	400	
	Ellen C. Walsh	620	
	Kate F. Wellington	620	
Quincy Primary.	Lucy C. Wyeth	620	75
	Evelina Brooks	620	
Reed Primary.	Mary E. Parsons	640	163
	Harriet N. Keyes	620	
	Margaret Kidd	620	
	Helena V. Eaton	400	
Riverside Primary.	Elizabeth A. Tower	640	162
	M. Louise Akerman	620	
	Amanda M. Alger	620	
	Ella E. Coye	550	
Sargent Primary.	Frances J. Harrod	640	166
	Mary A. Brown	620	
	Eliza J. Mitchell	620	
	Mary E. Woodman	620	
Stearns Primary.	Helen M. Ward	630	150
	Ellen A. Cheney	620	
	Mary M. Tingey	500	
	Eva A. Taylor	200	
Tarbell Primary.	Charlotte E. Jewell	640	148
	Mary H. Ross	620	
	Emma J. Young	500	
Willard Primary.	Amelia Wright	680	449
	S. N. Chamberlain	620	
	Louise W. Harris	620	
	Mary E. G. Harrington	620	
	Kate M. Lowell	620	
	Emma C. Otis	620	
	Mary E. Sawyer	620	
	Laura Wright	620	
	Grace R. Woodward	620	

Tabular View of the Public Schools. — Concluded.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1885.
Wyman Primary.	Fannie E. M. Dennis.....	$640	212
	M. Carrie Dickman.....	620	
	Georgiana B. Dutcher.....	500	
	Mary M. Gilman.....	620	
	Nellie E. Pratt.....	200	
Wellington School.[1]	Herbert H. Bates.....	1,200	249
	Training Class.....	2,200	

Teacher of Singing. — Nathan Lincoln	$1,700
Teacher of Drawing. — Augusta L. Balch	800
Superintendent. — Francis Cogswell	2,800
Agent. — Frederick S. Cutter	1,200
Librarian and Secretary of High School. — Jessie L. Cate	400

[1] This is a Training School, composed of grammar and primary scholars, taught by eleven young ladies, graduates of Normal Schools and candidates for teachers, under the direction and with the assistance of the master of the school.

Summary.

Number of pupils in High School	477
" " Grammar Schools	4,296
" " Primary Schools	4,289
	9,062

Cost of Instruction.

High School	$17,500	For each pupil	$36.69
Grammar Schools	74,791	" "	17.41
Primary Schools	57,559	" "	13.42
Teacher of Singing	1,700		
Teacher of Drawing	800		
Superintendent	2,800		
Agent	1,200		
Librarian and Secretary of High School	400		
	$156,750	For each pupil	17.29

Number of pupils belonging to Public Schools, Jan. 1, 1885	9,062
Number of pupils belonging to Public Schools, Jan. 1, 1884	8,897
Increase	165

Average annual increase of pupils from 1860 to 1874, inclusive	246
Decrease of pupils, 1875	268
Increase of pupils, 1876	6
Decrease of pupils, 1877	81
Decrease of pupils, 1878	50
Increase of pupils, 1879	57
" " 1880	286
" " 1881	403
" " 1882	448
" " 1883	280
" " 1884	165

Number of distinct schools	33
Number of separate rooms	203
Number of teachers	216

REPORT

OF

THE SUPERINTENDENT OF SCHOOLS.

To the School Committee of Cambridge : —

I RESPECTFULLY submit the following as my report for the year ending Dec. 31, 1884, it being my tenth report, and the sixteenth of the series of annual reports of the Superintendent of Public Schools.

SUMMARY OF STATISTICS.

I. — POPULATION.

Population of Cambridge by the State census for 1880 . . .	52,740
Number of children in the city between five and fifteen years of age, May 1, 1884, as reported by the Truant-Officers . .	10,682

II. — SCHOOLS.

1 High School, with twelve separate rooms.
8 Grammar Schools, with ninety-seven separate rooms.
24 Primary Schools, with ninety-four separate rooms.
2 Evening Drawing Schools, with two separate rooms.
4 Evening Schools, with five separate rooms.

Whole number of Day Schools	33
Whole number of separate rooms	203

III. — SCHOOL-HOUSES.

For the High School	1
For the Grammar Schools	8
For both Grammar and Primary Schools	5
For the Primary Schools	18

IV. — Teachers.

Number of teachers in High School	13
Male teachers, 5 ; female teachers, 8.	
Number of teachers in Grammar Schools	106
Male teachers, 10 ; female teachers, 96.	
Number of teachers in Primary Schools	95
Number of teachers in Evening Drawing Schools, 1883–84	6
Average number of teachers in Evening Schools, 1883–84	8
Whole number of teachers in Day Schools, including the teacher of music and the teacher of drawing [1]	216
Number of teachers who have attended Normal Schools	132
Number of teachers who have graduated from Normal Schools	116

V. — Pupils.

Attendance at all the Day Schools, 1880 to 1884.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1880	8,537	7,175	6,614	92.2
1881	8,912	7,434	6,759	91.0
1882	9,395	7,898	7,231	91.5
1883	9,691	8,194	7,523	91.8
1884	9,982	8,414	7,763	92.2

Attendance at the High School, 1880 to 1884.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1880	485	440	411	93.3
1881	484	430	403	93.7
1882	460	426	403	94.6
1883	438	396	375	94.6
1884	452	398	377	94.7

[1] Temporary assistants and members of the training class are counted as eight teachers; the sum of their salaries being equal to the amount paid that number of regular teachers.

Attendance at the Grammar Schools, 1880 to 1884.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1880	3,931	3,439	3,205	93.1
1881	4,039	3,572	3,309	92.6
1882	4,147	3,627	3,360	92.6
1883	4,186	3,728	3,462	92.8
1884	4,363	3,848	3,593	93.3

Attendance at the Primary Schools, 1880 to 1884.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1880	4,110	3,287	2,990	91.0
1881	4,369	3,418	3,033	88.7
1882	4,775	3,834	3,456	90.1
1883	5,067	4,070	3,686	90.5
1884	5,167	4,168	3,798	90.9

Number of Pupils Graduated from, and Admitted to, the High School and the Grammar Schools, 1880 to 1884.

Year.	Graduated from High School.	Admitted to High School.	Graduated from Grammar Schools.	Admitted to Grammar Schools.
1880	51	155	230	864
1881	87	150	238	771
1882	67	145	226	815
1883	70	172	251	958
1884	75	206	314	1,042

Number of Pupils belonging to the Evening Drawing Schools, with the Average Attendance, 1880 to 1884.

1880.	1881.	1882.	1883.	1884.
150	159	153	159	212
71	67	66	89	104

Number of Pupils over Fifteen Years of Age belonging to the Day Schools on the First of May, 1880 to 1884.

1880.	1881.	1882.	1883.	1884.
603	507	523	586	349

Number of Pupils in the Private Schools in Cambridge, including the Parochial School, 1880 to 1884.

1880.	1881.	1882.	1883.	1884.
1,748	1,743	1,752	1,844	1,869

Table showing the Number in each Course in the High School, December, 1884.

Year.	Classical Course.	Full English Course.	Commercial Course.	Number of Divisions.
Fifth	16	..	..	1
Fourth	31	40	..	3
Third	24	43	..	4
Second	98		26	5
First	162		37	9

[For the first two years the Classical Course is identical with the Full English Course. The Commercial Course is one of two years only, and is confined wholly to English studies.]

Table showing the Number in each Year of Attendance in the High School, December, 1884.

Year.	Boys.	Girls.	Total.	Per cent.
Fifth	10	6	16	.033
Fourth	29	42	71	.148
Third	27	40	67	.140
Second	49	75	124	.259
First	86	113	199	.417
Total	201	276	477	

Table showing the Number in each Class in the Grammar Schools, December, 1884.

Class.	Boys.	Girls.	Total.	Per cent.
First	158	164	322	.075
Second	208	257	465	.108
Third	305	334	639	.149
Fourth	407	426	833	.194
Fifth	424	436	860	.200
Sixth	591	586	1,177	.273
Total	2,093	2,203	4,296	

Table showing the Number in each Class in the Primary Schools, December, 1884.

Class.	Boys.	Girls.	Total.	Per cent.
First	588	635	1,223	.285
Second	676	634	1,310	.305
Third	930	826	1,756	.409
Total	2,194	2,095	4,289	

Summary of the School Census, as taken by the Truant-Officers, May, 1884.

[The statutes make it the duty of the School Committee annually to ascertain the names and ages of all persons belonging to their respective towns and cities on the first day of May, between the ages of five and fifteen years.]

Number of children in the city five years old or more, but less than fifteen	10,682
Number in Public Schools five years old or more, but less than fifteen	8,179
Number in Private Schools five years old or more, but less than fifteen	1,501
Number not attending school five years old or more, but less than eight	566
Number not attending school eight years old or more, but less than fourteen	212
Number not attending school fourteen years old or more, but less than fifteen	224
Whole number not attending school five years old or more, but less than fifteen	1,002
Number in the city five years old or more, but less than six	985
Number in the city eight years old or more, but less than fourteen	6,608

VI. — Finances.

Cost of instruction in Day Schools	$152,766.00
Free text-books and supplies	14,761.90
Incidental expenses for Day Schools	1,467.18
Cost of Evening Drawing Schools	949.70
Cost of Evening Schools	1,253.22
Care and repairs of school-houses	34,239.48
Cost of Wellington School-house	17,017.33
Cost of furniture for Wellington School-house	974.01
Total expenditures for all school purposes	$223,428.82
Deducting receipts from the Hopkins Fund ($760.87) and for tuition of non-resident pupils ($236.25), actual cost of the schools to the city	$222,431.70
Assessed value of real and personal estate, May, 1884	$53,548,691.66
Ratio of expenses for school purposes to the valuation of 1884	.004

Cost of Instruction in the Day Schools, 1876 to 1884.

[Salaries of teachers, superintendent, and truant-officers.]

Year.	Whole Cost.	Average Number of Pupils.	Cost per Pupil.
1876	$164,818.00	7,066	$23.32
1877	151,946.65	7,139	21.28
1878	136,491.20	7,028	19.42
1879	132,570.49	6,957	19.05
1880	130,371.75	7,175	18.17
1881	132,501.10	7,434	17.82
1882	137,328.55	7,898	17.38
1883	144,457.60	8,194	17.63
1884	152,290.62	8,414	18.09

Cost of the Day Schools, 1875 to 1884.

[The expenditures for new school-houses and new furniture are not included.]

Year.	Whole Cost.	Average Number of Pupils.	Cost per Pupil.
1875	$212,960.72	7,167	$29.71
1876	200,894.09	7,066	28.43
1877	180,974.36	7,139	25.35
1878	162,437.77	7,028	23.11
1879	158,196.21	6,957	22.73
1880	153,967.56	7,175	21.45
1881	158,282.84	7,434	21.29
1882	166,230.52	7,898	21.04
1883	177,149.93	8,194	21.62
1884	203,234.56	8,414	24.15

Statistics taken from the Forty-eighth Annual Report of the Secretary of the State Board of Education.

Number of cities and towns: cities, 22; towns, 324	346
Number of public schools	6,358
Number of pupils of all ages in the public schools during the year	342,012
Number of persons over fifteen years of age attending the public schools	24,768
Number of persons employed as teachers in the public schools during the year: men, 1,058; women, 8,340; total	9,398
Number of teachers who have graduated from Normal Schools	2,240
Average number of months the public schools have been kept for the entire year	9
Number of High Schools	228
Number of teachers in High Schools	634
Number of pupils in High Schools	20,012
Amount expended upon the public schools, exclusive of the expense of school buildings	$5,180,661.93
Cost of new school-houses, permanent improvements, and ordinary repairs	$1,321,697.31
Entire expenditure for public school purposes	$6,502,359.24
Amount of the Massachusetts School Fund, Dec. 31, 1884	$2,710,241.30

Special Institutions.

In addition to the amount paid for public schools, Massachusetts expended in 1884: —

For the deaf mutes	$33,554.38
" blind	30,000.00
" feeble-minded	10,764.89
" children of the Primary School, at Monson	53,500.37
" boys at the Lyman School for Boys, at Westborough	29,477.88
" girls at the State Industrial School, at Lancaster	16,120.28

The Commonwealth has provided for its deaf-mute beneficiaries at the same institutions as in past years, — the American Asylum at Hartford, Conn., the Clarke Institution at Northampton, Mass., and the Horace Mann School at Boston, — paying *pro rata* for the care and instruction of those whom it sends. At the present time the State has about two hundred beneficiaries in these institutions, and in the Perkins Institute for the Blind about sixty-five.

A Graduated Table in which the Cities in the State are numerically arranged according to the Percentage of their Taxable Property appropriated to the Support of Public Schools for the Year 1883–84.

For 1883-84, by the State Valuation of 1883.	Cities.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1883-84, by the State Valuation of 1883.	Cities.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
1	Haverhill	$.004–15	12	Newburyport . .	$.002–96
2	Gloucester . . .	3–90	13	Holyoke	2–86
3	Waltham	3–82	14	Lawrence	2–83
4	Lynn	3–35	15	Taunton	2–83
5	Worcester. . . .	3–29	16	Lowell	2–82
6	Somerville . . .	3–26	17	Salem	2–74
7	Fitchburg	3–24	18	Brockton	2–69
8	Chelsea	3–17	19	New Bedford. . .	2–65
9	Malden.	3–09	20	Springfield . . .	2–64
10	Cambridge . . .	3–06	21	Fall River. . . .	2–58
11	Newton	3–04	22	Boston	2–04

Towns and Cities of Middlesex County.

1	Marlborough . . .	$.005–60	28	Malden	$.003–09
2	Wakefield	4–42	29	Cambridge . . .	3–06
3	Stoneham	4–41	30	Newton	3–04
4	Natick	4–35	31	Ashland	3–03
5	Woburn	4–25	32	Wilmington . . .	2–96
6	Ashby	4–17	33	Hopkinton . . .	2–91
7	Arlington	4–11	34	Littleton	2–84
8	Hudson.	4	35	Lowell	2–82
9	Melrose.	4	36	Maynard	2–74
10	Concord	3–98	37	Shirley	2–74
11	Wayland	3–89	38	Dracut	2–69
12	No. Reading . . .	3–85	39	Everett	2–68
13	Waltham	3–82	40	Pepperell	2–68
14	Tyngsborough . .	3–52	41	Sherborn	2–60
15	Westford	3–49	42	Dunstable . . .	2–57
16	Boxborough . . .	3–46	43	Burlington . . .	2–53
17	Winchester . . .	3–45	44	Tewksbury . . .	2–47
18	Medford	3–44	45	Watertown . . .	2–39
19	Townsend. . . .	3–43	46	Bedford	2–30
20	Reading	3–39	47	Weston	2–26
21	Chelmsford . . .	3–37	48	Belmont	2–21
22	Acton	3–34	49	Carlisle	2–19
23	Holliston	3–32	50	Sudbury	2–09
24	Lexington. . . .	3–31	51	Stow	2–04
25	Ayer	3–29	52	Groton	2–01
26	Somerville . . .	3–26	53	Billerica	1–87
27	Framingham. . .	3–20	54	Lincoln	1–71

Remarks on the Statistics.

The increase over last year in the number of pupils registered is 291; in the average number belonging, 220; in the average daily attendance, 240; in the per cent of attendance, four-tenths of one per cent.

In the cost of instruction, which is made up of the salaries of the teachers, superintendent, and truant-officers, the increase is nearly $8,000, the increase per pupil being 46 cents. For six years beginning with 1876, there was an average annual decrease of the cost of instruction per pupil of 99 cents; for the past two years there has been an average increase of 36 cents.

The entire cost of the day schools, excluding the expenditure for the new school-house, exceeds that of last year by $26,000, and the cost per pupil by $2.53. About $13,000 of this increase, or $1.55 per pupil, is due to the additional expense incurred in carrying out the provisions of the free text-book law, and between $5,000 and $6,000 to the increased expenditure for the care and repair of school-houses. More extended repairs and improvements than usual were made during the year, and to the cost of these was added the expense of fitting up a room for the agent of the Committee on Supplies, and of providing closets in the several school-houses for the safe keeping of the books and stationery intrusted to the teachers, and for the storage of all the books during the school vacations. It is due to the Committee on Public Property, under whose direction this expenditure was made, that these facts should be stated in this report.

While Cambridge expends a large amount for her schools, there are more than two hundred towns and cities in the State which make a larger expenditure in proportion to their wealth. In a list of the towns and cities, arranged numerically according to the percentage of their taxable property appropriated to the support of public schools for the year 1883–84, Cambridge is the tenth among the twenty-two cities, and the two hundred and twentieth among the three hundred and forty-six towns and cities. Compared with the fifty-four towns and cities of our county, Cambridge is the twenty-ninth. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child between five and fifteen years of age, Cambridge is the thirty-fourth.

I have inserted these statistics relating to the schools of the State, because many of our teachers, and of our citizens generally, do not see the report of the Secretary of the Board of Education from which they are taken. Some of these facts would be interesting even to the pupils in our schools, and might with profit be brought to their notice. The information is certainly more valuable for Massachusetts children than many things which they are required to learn from their text-books.

School Accommodations.

The new school-house in Ward 2, recommended by the School Committee at the beginning of the year, was begun early in the spring and completed about the middle of September. It is of brick, and contains seven school-rooms, a principal's room, and two class-rooms. The house and furniture cost $18,000; the land was owned by the city. The school has been named the Wellington School, in honor of Dr. W. W. Wellington, a resident of the ward, and for many years a prominent member of the School Committee. I may add here that the name of the Harvard Primary School has been changed to that of the Stearns Primary, in memory of the late William A. Stearns, D.D., who also was for many years a distinguished member of the School Board.

The Webster Grammar School numbers over seven hundred pupils, while the school-house does not well accommodate more than five hundred and fifty. It is therefore necessary for four classes to occupy rooms in other buildings. Three of these are now in the Willard school-house, and the fourth is in the Tarbell. Two plans are suggested for securing the accommodations which are needed. One is to give the Webster School a larger number of rooms in the Willard school-house, and to remove primary classes from that school-house to a new one to be built near the corner of Putnam Avenue and Pearl Street. The other plan is to enlarge the present Webster building by a wing on the east side, which shall contain four school-rooms and a large hall.

The lot on which this school-house stands measures nearly twenty-six thousand square feet, and is the largest grammar-school lot in the city by more than five thousand square feet, or, if we except the Harvard school-house lot, by more than ten

thousand square feet. It is therefore of ample size for the enlargement of the building should this plan be adopted.

Each plan has its peculiar advantages. The first will eventually secure to the little children living in the Willard district small school-houses near their homes, an end greatly to be desired. The second will give the Webster School rooms enough for all its pupils in one building, with the addition of a large and commodious hall.

One year ago, the High School numbered four hundred and twenty-three pupils. It now has four hundred and seventy-seven. Should the next entering class be as large as the one admitted last September, and the percentage of loss during the coming year be the same as for the past year, the school will have in January, 1886, more than five hundred pupils. When the school numbered less than four hundred, the following resolutions, after being fully discussed, were adopted by the committee : —

"*Resolved,* that in view of the present crowded condition of the High-School building, and of the expected increase of the school with the growth of the city, it is advisable that immediate steps be taken for the division of the school into Classical and English Departments, and for the removal of the Classical Department to a suitable building to be erected in Ward One.

"*Resolved,* that the Committee on School-houses and Estimates be directed to include the sum necessary for the erection of the proposed building in their estimate for the next municipal year."

During the past four months the High-School question has again been before the Board, and every aspect of it has been carefully considered. The final action of the Committee upon the subject was the adoption of the following resolutions, which are substantially the same as those quoted above : —

"Whereas, additional accommodations for the High School are an imperative necessity, for sanitary as well as educational reasons : —

"*Resolved,* that the courses of study now pursued at the High School be divided, and that the College Preparatory Course be pursued as a separate part of our school system, entirely distinct from the English and Commercial Courses, under such conditions as may hereafter seem advisable to the Board.

"*Resolved,* that the City Council be requested to provide a new school-

house, containing not more than eight rooms, for the College Preparatory Course of our school system."

The other plan most in favor with the Board was the enlargement of the present building, and the continuation of the school as now organized. There are special advantages connected with each plan, but to my mind those of one very nearly balance those of the other.

The question, however, has been thoroughly discussed by two Boards of the School Committee whose terms of service were separated by a period of ten years, and, as already stated, in both instances the same decision was reached.

The plan now adopted virtually leaves in abeyance the question as to what shall ultimately be done with the High School, since the division of the school may be regarded as an experiment which can be given up after a trial of three or four years, with no loss to the city beyond the increased expense of maintaining the two schools; for the proposed new building, or one similar to it, will be needed in the near future for grammar and primary school purposes.

When this experiment has been tried, the committee may be better prepared than at present to agree upon a final solution of the High-School problem.

In view of these facts, and of the admitted necessity for more ample accommodations for the school, I feel that there should be no delay in carrying out the plan adopted by the Committee.

The Wellington School.

This school was opened in September, and differs from the other schools in this respect, — all the classes are taught by young teachers. Their work, however, is done under the immediate supervision of a principal, who is held responsible for the instruction and management of the school.

Any graduate of a normal school who has also completed a high-school course, and any other person of equal attainments, may be appointed a teacher in the school. The salary, though not fixed, is expected to be about half the sum paid the first year to a teacher receiving a permanent appointment.

The school as now organized contains all the classes of the primary grade and two classes of the grammar grade, the num-

ber of pupils being two hundred and fifty, and the number of teachers, including the principal, thirteen.

The reason for conducting a school on this plan is to give our Cambridge young women who desire to teach, and who have made special preparation for this work, an opportunity to gain experience under conditions favorable to their own success, and without prejudice to the interest of their pupils.

The experiment thus far has met my expectations. The young teachers are enthusiastic in their work, and are doing it in a very acceptable manner. An excellent spirit pervades the school, showing that the principal in the performance of his difficult duties has exercised tact and good judgment. I am sure that the experience gained by these teachers will be helpful to them when each shall be obliged to decide for herself the many perplexing questions which come up in the management of every school.

Reading and Reading Books.

The present is a favorable time to consider the subject of reading, in connection both with the Public Library and with the public schools. Mr. William E. Foster, in his admirable book on "Libraries and Readers," says: "Much valuable effort — and none too much — has been directed towards setting books before the people and asking them to read. It is only right that some of this effort should now be directed towards leading them so to read as to make their use of books a source of permanent benefit, and a vital force in their lives."

In my report for 1877, I expressed the opinion that the time was not far distant when the reading of interesting books, not for the purpose of learning to read, but for that of cultivating a taste for reading, would form a part of the regular school work. In what other way can young persons be more surely taught to read with profit than under the guidance of a skilful teacher?

With the introduction of free text-books into the public schools the difficulty in the way of incorporating this exercise in the course of study is removed. Parents would have felt it a hardship to buy several reading-books for their children each year, but the city can supply the schools with a variety of reading matter almost as economically, when the expense is estimated for several years, as it can with a sufficient number o

copies of any one book. Pupils will use but one book at a time, and hence the wear of several books used a part of the time will not greatly exceed that of one used all the time. There is absolutely no additional expense in supplying each division of the same class with a different set of books, and these can be passed from one division to another. This plan has already been adopted in buying the reading books for the lower classes of the grammar schools. I hope now the plan suggested in 1877 will be fully tried. The Public Library has its field of usefulness; but it is not an unmixed blessing unless people are taught to use it aright. Our teachers are doing much towards directing the reading of their pupils, and the excellent Librarian of our Public Library is always ready to aid those who seek her assistance in the selection of books.

It is not enough, however, to put even a good book into a child's hand. He should be taught how to read it, and nowhere, except in the home circle, can this be so well done as in the schools.

The plan in detail which I propose is this: Let each class of the grammar schools read in the school-room one book each term, for the purpose of developing a correct taste for reading. As there are three terms in our school year, and six classes in the grammar grade, each pupil who goes regularly through a grammar school will have, when he graduates, a good knowledge of eighteen books. These books should be selected from different authors, and the scholars should be encouraged to read at home other works by the same authors, a descriptive list of which should be prepared for their use.

By organizing a system of exchanges, one hundred copies of each book will make a sufficient number of sets to supply the schools; for all the books could be in use at the same time, the schools taking them in different order.

It may be wise not to fix definitely the manner of using the books, but to leave each teacher free to choose his own way, as the value of the exercise will depend much upon the spirit in which the work is done. It is true, also, that the method which would be the best in the use of one book might not be even a good one in the use of another.

This plan is essentially the same as the one adopted a few years since in the Wells School, Boston, the difference being that

the books used there were obtained at the public library. I can see no reason why the Trustees of the Cambridge Library should be asked to buy these books and lend them for this purpose. The larger part of the money expended on the library comes from the same source as that expended on the schools; namely, from the city treasury. It is, therefore, only fair that the expense of this experiment, if tried, should fall upon the School Department.

Miscellaneous.

Course of Study. — It was my intention to present with this report for your consideration the course of study in our schools, giving it more fully in detail than heretofore, and suggesting some changes which seem to me desirable. I have not been able to complete the work, and on some accounts it may be as well that it be delayed until after the report of the Text-Book Committee in April. The course should certainly be revised before the opening of the schools in September, for new studies have been added since its last revision to what was already a crowded list, without any provision being made for lessening the work previously required.

Free Text-Books. — The report of the Committee on Text-Books and Supplies makes it unnecessary for me to give the details of the introduction of free text-books into our schools. I desire, however, to express my satisfaction with the arrangements made by the sub-committee appointed by the Board to carry into effect the provisions of the new law. I certainly appreciate the action of this committee in designedly selecting as agent a person qualified by education, and by experience as a teacher, to render me valuable assistance when his services are not required in the discharge of his special duties. He has already found time to do important work for the schools in connection with my office.

If I may be permitted to remark on the doings of any committee, I would say that the city and the schools alike are indebted to the Committee on Text-Books and Supplies. Every article purchased has been bought at the lowest price, and there has been no unnecessary delay in supplying the wants of the schools.

The Recess Question. — Superintendent Ellis, of Rochester, N. Y., in his last report, says: "It is now nearly two years since

the recess was abolished in our schools. While the experiment was entered upon with some doubts in my mind as to its wisdom, the actual working of the new plan has dispelled all doubts."

Superintendent Cole, of Albany, N. Y., in his report, has the following: "Three years' trial has confirmed our belief in the salutary influences of the abolition of general recesses." He states that "physicians in Albany, Troy, Cohoes, Oswego, and other places, who have the opportunity of studying its practical workings, are well satisfied that this movement tends to the melioration of the health of pupils, and that parents and teachers, almost without exception, heartily approve the plan."

Since the adoption of the new standard time, it has been necessary, during the months of November, December, and January, to shorten the intermission between the morning and afternoon sessions of our schools. Whatever may be the difference of opinion as to the wisdom of adopting the "no-recess plan" for the entire year, it seems to me there are positive advantages in adopting it for the winter season. Even when great care is exercised by teachers, children often go from warm school-rooms to the yard without proper protection in clothing, and during the short days of the fall and winter months it is not wise to require children to use their eyes in the insufficient light of the last half-hour of many an afternoon session.

I therefore suggest that from the 1st of November to the 1st of March the hours for keeping school in the grammar and primary schools shall be from 9 to 11.30 A.M., and from 1.30 to 3.30 P.M., with no recess in either session.

Loss of Time by Pupils. — By the rules of the Committee, "no pupil shall be admitted after the hour of beginning school without a satisfactory excuse; and all absence must be satisfactorily accounted for; and no scholar shall be absent from school, or be excused from any school exercise, in order to receive regular instruction elsewhere, without the consent of the sub-committee having charge of the school." Notwithstanding the strictness of these rules, and the faithful efforts of our teachers to carry them out, the school work is seriously interrupted by the frequent absence of pupils for the whole or a part of a session. Parents often express surprise, and sometimes indignation, that their children are not carried forward from class to class more

successfully, not taking into consideration the fact that by reason of absence the work of the school has not been fully performed.

A short time since, the teachers in one of our grammar schools, at the request of the master, kept a record, for one month, of all the time lost by their pupils by reason of tardiness, dismissal, and absence. The school numbered 662 pupils. The amount of time lost by tardiness was 94 hours; by dismissal, 210 hours; by absence, 5,062 hours; making a total loss for the month of 5,366 hours. As this was not an exceptional month, by multiplying these numbers by 10, we have the loss for one school year as follows: 940 hours by tardiness; 2,100 hours by dismissal; 50,620 hours by absence; making a total loss of 53,660 hours, or more than fifty school years. An entire class of fifty pupils might have been absent from this school during the whole year, and the loss in time would not have equalled the actual loss as shown above. It is only fair to this school to add that its percentage of attendance for the year was the highest in the city.

The Work of the Truant-Officers. — In looking over the reports of these officers, I find that during the year three hundred and eighty-two cases of truancy have come to their knowledge. Ten habitual truants have been sentenced, and eight have been put on probation. The importance of the services of these officers, however, is not to be judged by the number of truants brought before the court, or even by the number of cases of truancy which have occurred during the year; but rather by the number of children now in our schools, who, but for the watchful care and personal influence of these faithful officers, would be wandering about the streets, exposed to the dangers and temptations of a vagrant life. Our truant-officers are deserving of great praise for the manner in which they perform their work.

Addition of Columns of Figures. — I do not hesitate to express the opinion, that if the pupils of the grammar schools of Massachusetts were required to add in two minutes twenty numbers of three figures each, not over fifty per cent of the answers would be correct. Rapidity and accuracy in the work of addition can be secured only by frequent practice, and the methods to be employed in this practice are of the utmost importance.

In the first place, scholars should be able at a glance to give the sum of any two numbers one of which is less than ten; then, in adding a column of figures, results only should be carried in the mind. No scholar should be allowed to say, "eight and seven are fifteen, fifteen and four are nineteen;" but he should say, "eight, fifteen, nineteen."

Teachers will find the table on the following page convenient in dictating to their classes numbers for addition. It contains more than two thousand examples, with their answers; and this number can be increased indefinitely by changing the last number in each example, and by making a corresponding change in the answer.

FRANCIS COGSWELL,

Superintendent of Public Schools.

Two Thousand Examples in Addition, with Answers.

[These examples vary in length from two numbers to fifty-six.]

No.	1			2			3				4
	A	B	C	D	E	F	G	H	I	J	K
1	3	118	1338	125	1363	10219	110	1167	8603	49315	60872
2	5	115	1220	116	1238	8856	106	1057	7436	40712	50788
3	2	110	1105	111	1122	7618	98	951	6379	33276	41999
4	6	108	995	109	1011	6496	93	853	5428	26897	34388
5	7	102	887	103	902	5485	86	760	4575	21469	27841
6	4	95	785	96	799	4583	83	674	3815	16894	22262
7	9	91	690	92	703	3784	74	591	3141	13079	17553
8	3	82	599	83	611	3081	72	517	2550	9938	13618
9	7	79	517	80	528	2470	69	445	2033	7388	10375
10	9	72	438	73	448	1942	65	376	1588	5355	7735
11	4	63	366	64	375	1494	59	311	1212	3767	5627
12	5	59	303	60	311	1119	52	252	901	2555	3977
13	6	54	244	55	251	808	44	200	649	1654	2706
14	7	48	190	49	196	557	37	156	449	1005	1752
15	6	41	142	42	147	361	34	119	293	556	73
16	7	35	101	36	105	214	29	85	174	263	72
17	5	28	66	29	69	109	23	56	89	93	87
18	8	23	38	24	40	86	20	33	85	83	292
19	9	15	10024	16	79	5911	13	73	73	2332	301493
20	6				64	59196		83	65	234123	

The plan of the card will be seen by a few examples. (1) Column B, 110 to 15. Ans. 1105 (number in C opposite 110). (2) Column B, 95 to 48 plus 142 (number in C one below 48 in B). Ans. 785 (number in C opposite 95). (3) Column D, 116 to 83, plus 528 (number in E one below 83 in D), plus 7618 (number in F one below 116 in D). Ans. 8856 (number in F opposite 116 in D). (4) Column B, 118 to 82, plus 517 (C), plus 125 to 96 (D), plus 703 (E), plus 8856 (F), plus 110 to 83 (G), plus 591 (H), plus 7436 (I), plus 40712 (J). Ans. 60872 (number in K opposite the first number taken in B).

VALEDICTORY ADDRESS

OF THE

HON. JAMES A. FOX,

MAYOR.

DELIVERED WEDNESDAY, DECEMBER 31, 1884.

Gentlemen of the City Council: —

AT this final meeting of the municipal government of Cambridge for the year 1884, it seems not inappropriate to ask you to review with me the action of the present term. In doing so, I may be obliged to allude incidentally to transactions in the history of the government for the past four years, in which I have had the honor to occupy the executive office.

It is a source of gratification to me to be able to say that decided unanimity has prevailed in the administration of affairs during the past year, which is due especially to the fact that the workings of the several committees have been attended with perhaps more than the usual degree of harmony. To those gentlemen who have devoted so much time in prompt and faithful attendance upon the duties of the more prominent committees, for instance, those on Accounts, Public Property, Roads and Bridges, Claims, Fire Department, Licenses, and Police, and more particularly to the members of the most important committee, that of Finance, on whose shoulders rests to a great extent the burden of managing our entire fiscal affairs, the thanks of our citizens are justly due.

Financial.

Regarding these financial affairs I have somewhat to say. When I assumed this position, four years ago, I found a policy

in vogue defective in some respects, the successive inheritance of many years. While no single administration was directly responsible for this system, yet no one of them had the courage to attempt a reform of it. Every administration, desiring to make a favorable showing for itself, continued the policy, and transmitted the defects to its successor. And what were those defects? They may be described briefly by the phrase, *not paying as you go*, — that is, by postponing the payment of some of the regular expenses of any municipal year to a succeeding one. The items of obligation thus put over were as follows: —

First. The bills accruing in the month of November, which should have been included within the year ending on the thirtieth day of that month, which is the end of the regular financial year, have been allowed to go over to the month of December for payment, thus throwing the account into the next financial year. The draft of the Mayor for the payment of such bills has ordinarily exceeded $50,000.

Second. The State and county taxes have hitherto not been paid within the financial year for which they have been assessed and collected, but have been allowed to go for payment into the annual budget of the next year.

Third. Of the proportion — one quarter — of the amount received for liquor licenses, due and payable to the State, the same remark may be made.

Fourth. The bill payable by the city to the Water Board for water used in sprinkling our streets has not formerly been included in the year for which the liability was incurred. To rectify this irregularity, so to call it, we were obliged to pay two bills for such use of water this year, viz.: —

The one for 1883	$6,036.00
The one for 1884	$6,131.71

Fifth. Since the year 1865 there has been usually a surplus of receipts from the water-rates over all the fixed charges or annual expenses of the water department. The aggregate of those several sums, amounting to $200,000, has been honorably acknowledged and virtually paid; and the surplus for the past two years, amounting to $9,271.54, has been promptly paid into the Sinking Fund of the Water Works.

Sixth. Every year a varying number of our citizens, who are owners of lots in the Cambridge Cemetery, deposit a principal sum with our Treasurer, the annual interest on which is to be used for the perpetual care of their lots. These amounts so received have heretofore been merged in the general funds of the treasury and spent for ordinary city purposes. But this year, I am happy to say that the practice has been stopped, and the money so received remains in the treasury for a safe and permanent investment, as all *trust funds* should be.

The new and important departure that we have made is that by persistent resolution we have brought about a decided change in regard to the foregoing items, and now for the first time we have been enabled to pay all our obligations within our financial year. In order to bring about so great a reform as this, we have also been obliged to pay the State and county taxes for two years, and in like manner most of the other items that I have just mentioned.

The total expenditure under appropriation heads in 1883 (exclusive of Water Works account) was		$1,066,981.16
The same expenditure for 1884 was		1,038,345.91
Reduction in 1884		$28,635.25
The amount of cash in the treasury at the close of business, Nov. 30, 1884, was		$109,444.46
Deduct amount of unpaid bills prior to Nov. 1, 1884	$7,218.61	
Deduct amount of November draft . . .	101,067.35	
		108,285.96
Balance in treasury		$1,158.50
The amount of floating debt in 1883, borrowed in anticipation of the taxes of 1884, entirely originated in the correction of the defective system to which I have previously alluded, and was		$155,000.00
Unable to pay that sum this year without adding too heavily to the taxes, the note was renewed at its maturity and made payable from the taxes of 1885, and is still		$155,000.00
Amount carried forward		$155,000.00

Amount brought forward	$155,000.00
We were obliged to add to it by a loan for free text-books for our school-children; this loan was ordered by the City Council, Oct. 21, 1884, and was also made payable from the taxes of 1885, amount	12,000.00
An additional appropriation was made by the City Council, at near the close of the financial year, for cost of putting in operation the new Registration and Precinct Law; a note was given, made payable, like the former, from taxes of 1885	4,000.00
Making the total temporary loan on account of taxes of 1885	$171,000.00

This is an increase of the floating debt of $16,000 over last year, and, as is plainly to be seen, wholly unavoidable. The Free Text-books and Registration and Precinct Laws were certified to us long after the annual budget had been made up; therefore no other provision could have been made for the expense attending them than by a loan on account of the taxes of 1885.

There were also other items of extraordinary expenditure which were not contemplated in making up the annual budget, but our fortunate collection of revenue in excess of the estimate enabled us to meet them without adding to the temporary loan above presented. They were as follows: —

Rebuilding the River Street, Western Avenue, and "Cambridge great" bridges; additional cost when only ordinary repairs were contemplated	$3,499.72
Three-twentieths of Belmont tax, for the years 1880, 1881, and 1882, ordered by the Legislature in the Act for annexation, and bill not presented until this year	2,461.76
Board of Health sanitary inspection in anticipation of the scourge of cholera	686.75
Unanticipated work in the sewer department	1,572.00
On account of new bridge to Boston	684.95
Widening bridge on North Avenue across Alewife Brook .	459.41
	$9,364.59

The prompt and unusual settlement with the Commonwealth and the county of Middlesex within the financial year changes somewhat the annual list of assets and unfunded liabilities.

Comparative Statement of Unfunded Liabilities and Assets for 1883 and 1884.

	1883.	1884.
Assets	$358,465.03	$257,148.93
Liabilities	269,471.08	203,250.00
Excess of assets . . .	$88,993.95	$53,898.93

The note given one year ago to the Trustees of the Sinking Fund of the Water Works, for the sum of $200,000, though now existing in a tangible form, giving the appearance of an increased indebtedness during the year, is in reality an old and unrecognized debt, which ought not in justice to be considered an increase of the floating debt within the last year, as it is the aggregate accumulation of something like nineteen years of municipal irregularity.

In justice to the several Finance Committees who have served for the past four years, I ask you to look at the lists of "Unfunded Liabilities" and "Assets" in any annual document that may be at hand, and you will find no item therein which can be controlled by any mayor, committee, or even the City Council, with the exception of the item Cash in Treasury, to be found among the "Assets," and the item of Temporary Loan, among the "Liabilities." The trust funds, the State and county taxes, the amounts due from the Commonwealth, the uncollected taxes, and all the other charges and credits, the most of them varying each year, are entirely independent of a city council, and can neither be increased nor diminished by it.

Balance of Cash in Treasury at the end of Financial Years for Nine Administrations last past, as per Treasurer's Reports.

1876,	Mayor	Bradford	left	$27,157.58
1877,	"	Allen	"	879.16
1878,	"	Montague	"	34,870.24
1879,	"	"	"	61,305.57
1880,	"	Hall	"	35,203.28
1881,	"	Fox	"	3,285.15
1882,	"	"	"	63,387.87
1883,	"	"	"	73,181.01
1884,	"	"	"	109,444.46

Sinking Funds.

If there is any special claim that I might make for myself, it is the interest that I have always felt in the care and proper legal protection of the two sinking funds of the city. You, my respected associates, can bear witness to the determination which I have always shown in the meetings of the Finance Committee to carry out most strictly the exact letter of the law in regard to those funds. When I discovered that for nearly twenty years the annual surplus from water-rates had been withheld, I did not relax my efforts until the amount, computed to be $200,000, was acknowledged by the Finance Committee and the City Council, and a note for that sum, bearing an annual interest of $8,000, was given in full payment of the same.

Respecting the difference in amount between that certified as due by the Commissioners of the Sinking Fund of the city, $115,265, and the amount actually paid said Commissioners by the city, $80,225, I have to say in explanation, that the withholding of the payment of the difference between those sums, viz. $35,040, was contrary to my expressed views; and, though not intended by the City Council, was, in my opinion, a violation of the statute which requires ten annual payments on all ten-year bonds.

The result of the financial policy of the past four years may be briefly stated thus: The increased demands from all the departments, made necessary by the rapid growth of the city, have been, after careful consideration and when found essential, granted. The tax-rate has been held at about the same figure, and *every* bill of expense properly belonging to those years *paid in full.* The irregularities of former years have been corrected at a cost of $155,000, floating debt, with the addition to it this year of $16,000 for cost under the Free Text-book, the Registration, and the Precinct Laws, making in all $171,000 of floating debt. This sum does not properly represent any expense belonging to either of the past four years, and should be apportioned and placed in the tax levy for several terms to come, thus relieving the tax-payers from such a burden as would be placed upon them if the settlement of the irregularities of many years were required to be paid for at once.

In view of all this, I think that we may not improperly take to ourselves some credit for inaugurating and carrying out the reform measures that I have here referred to, which, if persevered in, must redound to the financial well-being of our city in the future; and however long or short our terms of office may have been, they have been long enough to accomplish such improvements in our fiscal affairs as to render the path of our successors smooth and easy.

Proposed Bridge to Boston.

Let me now report to you the progress that has been made during this year in several of the more important projects that are closely allied to the prosperity of our city; and, first, there is the proposed new bridge across the Charles River. Some delays have arisen by the reason that Boston had many other important schemes in progress, and was not ready for immediate action; but we have at last, I am glad to say, made some definite progress. Soundings and borings have been made for the piers, and their location fixed upon. The two cities have agreed upon an iron bridge, the line to be from Front Street (extended) to West Chester Park on the Boston side. Plans have been drawn and estimates made under the directions of the engineers of the two cities. The report of the joint special committee having the matter in charge, giving the full particulars as agreed upon by the committees of the two cities acting conjointly, has already been placed before you.

Charles River Embankment.

Closely connected with this subject is the Charles River Embankment. There is no doubt that, with proper encouragement from our City Government, the company will push the work to its completion. Boston has this very month initiated the improvement of her share of the beautiful basin of water, by awarding a contract for the construction of the embankment between Craigie and West Boston Bridges, the plans for which are drawn on the most liberal scale. The successful completion of this twin project of the development of the shores of the bay by the City Government of Boston and the Embankment Com-

pany will create the most beautiful urban feature in the country, and must add largely to the taxable property of Cambridge. In view of the fact that Boston is doing so much to adorn her side of the river at her own cost, it does seem that we on this side ought to lend a helping hand to a corporation which is doing a similar work on its own account. Our City Solicitor has presented a feasible plan whereby Cambridge, in securing an approach to the proposed new bridge, can legally favor this enterprise in a substantial manner; and as the project promises an addition of millions of dollars to our valuation, besides greatly beautifying what are now unsightly and comparatively valueless flats, a sound reason is thereby given for the exercise of our best judgment and liberal action in the matter.

Public Squares.

Quite a movement has been made of late by public-spirited citizens towards the acquisition of the tract of land lying between Cambridge, Winsor, and Portland Streets. The committee felt with me, that a suitable open square, which should serve as a breathing-place to our citizens and a playground for the children, might there be located; but, though greatly favoring it, they did not feel warranted in recommending the immediate acquisition of the land, and referred the proposition with kindly commendation to the next City Government.

In this connection I have also in mind the Mill Pond tract in Ward Four. It has long seemed to me that if this neglected territory could be devoted to public use in the nature of an open space or square, that it would be the very best disposition of the property that could be made, thereby enhancing the value of the surrounding estates, as well as giving a needed breathing-space for the citizens of that ward.

Water Supply.

I am very glad to say that, after long and anxious effort, we have at last been able to secure, by legislative authority, the right to take water from Stony Brook, thus placing our water supply beyond peradventure for many years to come.

Street Lamps.

This year an approach has been made, in my opinion, to the true principle of street-lighting; that is, of placing the lamps where they are most needed, at the exclusive expense of the city. Hitherto a property-holder desiring a light adjacent to his estate, and willing to pay for the post and lamp, could have one set, and the city would pay for the lighting. This policy left many points in the outlying districts or near the residences of the poor dangerously dark. The annual recommendation of the Superintendent of Lamps against the former policy has been seconded and urged strenuously by myself, and with gratification I am now able to say that the opposite course has begun. I doubt not but that the wisdom of the next City Government will prompt a continuance of the new policy.

I regret that no facilities have as yet been presented to illuminate our principal squares with the electric light. The enterprise of our efficient Bridge Commissioner in furnishing this new medium upon our two principal bridges has given such general satisfaction, that, if an opportunity for its further use had been offered, the present City Council would certainly have availed itself of it.

The High School.

A special matter brought before the School Committee during the past year has received full discussion. It is the necessity for enlarged accommodations in the High School building. The present building on Broadway is now filled to its utmost capacity; one division of the fourth class is obliged to be located in the basement, and another in the Harvard school-house. The long and thorough discussions on the subject by the committee have developed several collateral facts in regard to the system generally, in which the English and Classical departments of the school are related to each other. There is no doubt but that the classical one has reached the highest standard of excellence, yet at the same time some have thought that, for one or two reasons, the best interests of both departments now demand a separation from each other. If it should hereafter be thought best to make such a separation in the school for any reason,

a conclusive argument would be afforded for the erection of a new building, suited to the use of such departments as might be placed therein.

The Cambridge Hospital.

The new hospital building on Mt. Auburn Street, I am glad to say, is nearly completed. This institution, so dear to our citizens, where the sick or the injured may receive beneficent treatment, has been regarded by the municipal authorities with all the favor that could be given to it under the circumstances. When the building was commenced, we furnished stone for its foundation from the city quarry at a nominal cost, and other facilities, such as we could give, have been extended to the enterprise during the past season.

Honest Government.

It is with great satisfaction that I recall to you the fact that during my four years of municipal administration nothing has been brought to the notice of the government showing malfeasance in office on the part of a single city official. While such malfeasance, when it occurs, is not necessarily a reflection upon the executive, who neither appoints nor controls the election of the greater part of the more prominent officials, it is none the less a pleasure to reflect that the trusted public servants with whom I have been surrounded have not lowered the good name of our city.

Closing Words.

And now, gentlemen of the City Council, having given you a review of our transactions for this year, with some allusion to their connection with important measures of my three former administrations, of one or more of which the greater part of you were members, I have only to say, in conclusion, a word for myself personally. I can honestly assert that within my long term of service I have done no act which I thought at the time inimical to the best interests of Cambridge. Her interests are mine. In this city, that has so often honored me, I expect to live ; here I expect to die. I can only hope for my young suc-

cessor that his course may be more satisfactory to our citizens than mine has been; for his success must be that of Cambridge, and that is all that I could ask. To the respected President of the Common Council, who has so ably sustained me in the discharge of my duties, especially in the work of the Finance Committee, I tender my heartiest thanks. To my associates of the Board of Aldermen, with whom I have been so intimately connected, to members of the Common Council, the honored heads of the departments, and to all the other officials of the city, with whom my relations have been so pleasant, I would express my profound thanks. And now, to employ substantially the language of Edmund Burke on a somewhat similar occasion, "I will see nothing except the former kindness of my fellow-citizens, and I will give way to no other sentiments than those of gratitude. From the bottom of my heart I thank them for what they have done for me. Mine has been a long term, and it is now nearly expired. I have enjoyed its honors, and endeavored to perform its conditions; and I am ready to surrender the estate (to use the figure) into the hands of my successor without being in a single tile or a single stone impaired or wasted by my use." To those who will resume official duties here another year, I wish all success; and to those whose term of service ends, all health and happiness.

APPENDIX.

APPENDIX.

ORDINANCES

PASSED SINCE THE REVISION OF THE ORDINANCES.

An Ordinance in Relation to the Salary of the City Physician.

SECTION 1. From and after the first Monday of January, 1880, the salary of the City Physician shall be at the rate of one thousand dollars per annum.

SECT. 2. So much of Section 1 of Chap. 27 of the Revised Ordinances as is inconsistent herewith is hereby repealed.

[*Adopted March* 3, 1880.]

An Ordinance in Amendment of the Thirty-sixth Chapter of the Revised Ordinances.

Section 27 of Chap. 36 of the Revised Ordinances is hereby amended by prefixing to the words in said section the following words: "No person shall swim or bathe, or permit any animal under his care to swim or bathe, in Fresh Pond."

[*Adopted June* 2, 1880.]

An Ordinance establishing the Salary of the Inspector of Vinegar.

SECTION 1. The salary of the Inspector of Vinegar shall be at the rate of one hundred and seventy-five dollars per annum.

SECT. 2. This ordinance shall take effect upon its passage.

[*Adopted Nov.* 3, 1880.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Chapter 6 of the Revised Ordinances is hereby amended by adding at the end of Section 24 the words: "The Committee on Finance shall employ such clerks, permanent and temporary, as may be necessary in the different departments. The duties and compensation of such clerks shall be determined by said committee, subject, however, to change at any time by order of the City Council. No head of a department shall employ any extra clerical assistance in behalf of the city without having first obtained the consent of the Committee on Finance."

[*Adopted Nov.* 3, 1880.]

An Ordinance in Amendment of an Ordinance in Relation to the Cambridge Public Library.

Chapter 7 of the Revised Ordinances is hereby amended by striking out the second section thereof, and inserting in its place the following: —

"SECT. 2. The care, superintendence, and management of said library shall be vested in a Board of Trustees, to consist of one member of the Board of Aldermen, one member of the Common Council, and five citizens at large, one of whom shall hold office for one year, one for two years, one for three years, one for four years, and one for five years, their several terms of office to be determined by lot, the same to be chosen in the month of January next; and annually thereafter in the month of January one citizen at large, whose term of office shall be for five years from the third Monday in said January, unless sooner removed."

Also, in the third section, by striking out the word "three" in the fifth line thereof, and substituting therefor the word "five," relating to the term of office of the trustees.

Also, by striking out the fourth section, and inserting in place thereof the following: —

"SECT. 4. Said trustees may choose from their number a chairman and secretary; they shall choose, annually, in the month of January, a suitable person to be librarian, who shall be removable at the pleasure of the board, and shall receive

such compensation as the trustees may from time to time determine."

The foregoing amendments shall take effect on the first Monday in the month of January, 1881, except that the trustees heretofore elected shall hold office until their successors are chosen and qualified.

[*Adopted Nov.* 17, 1880.]

An Ordinance in Amendment of an Ordinance in Relation to Sinking Funds.

Chapter 34 of the Revised Ordinances is hereby amended by striking out the last five lines of Section 4, and inserting in place thereof the following words : —

" And whenever any payment is so made before the thirtieth day of November, interest shall be paid thereon by the Commissioners of the Sinking Funds from the time of said payment until said thirtieth day of November, at such rates as the Committee on Finance shall from time to time determine."

[*Adopted Nov.* 17, 1880.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Chapter 1 of the Revised Ordinances is hereby amended by inserting in the eighth line of the seventh section thereof, after the word " repair," the words " and shade trees and public grounds ; " also, in the fourteenth line of the same section, by striking out the words " shade trees and public grounds."

[*Adopted Nov.* 17, 1880.]

An Ordinance in Relation to the Compensation of the Assistant City Clerk.

Chapter 27 of the Revised Ordinances is hereby amended, as follows, viz. : —

" The salary of the Assistant City Clerk shall be twelve hundred dollars per annum, to date from Jan. 1, 1881."

[*Adopted March* 23, 1881.]

An Ordinance in Amendment of the Ordinance in Relation to the Water Works.

Section 25 of Chapter 39 of the Revised Ordinances is hereby amended by striking out the word "thirty," in the second line of the second paragraph, and inserting in place thereof the word "fifteen."

[*Adopted May* 18, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Chapter 36 of the Revised Ordinances is hereby amended by adding, at the end of Section 26, the following: —

"Whoever shall be found in possession of a club or bludgeon, on any street, park, or way, with intent to use the same in sports, sham-fights, or strife, or to intimidate persons or horses, shall be fined not less than one dollar nor more than twenty dollars.

"Whoever shall be found in possession of toy-pistols, crotches, rubber slings, or other devices for throwing missiles of any kind, with intent to use the same to the injury of persons or property, or to the annoyance or discomfort of any person, upon any street, park, or way, shall be fined not less than one dollar nor more than twenty dollars."

[*Adopted Dec.* 7, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Chapter 36 of the Revised City Ordinances is hereby amended as follows in Section 14, by inserting in the fifth line, after the word "aldermen," the words, "or some person by them authorized for that purpose."

Also, in Section 15, by inserting in the first line, after the word "aldermen," the words, "or some person by them authorized for that purpose."

[*Adopted Dec.* 28, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to Sewers.

Sections 9 and 10 of Chapter 32 of the Revised City Ordinances are hereby repealed, the same being in relation to house drainage.

Section 12 of Chapter 32 of the Revised City Ordinances is hereby amended by striking out of the first line thereof the words, "and catch-basins."

[*Adopted Dec.* 28, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to the Fire Department.

Chapter 16 of the Revised Ordinances is hereby amended by striking out the second section thereof, and inserting in its place the following: —

"SECT. 2. In the month of April, in the year eighteen hundred and eighty-two, there shall be appointed by the Mayor, with the approval of the Board of Aldermen, and the concurrence of the Common Council, — or, in default thereof, afterward, by a concurrent vote of the City Council, either branch acting first, — a chief engineer and three assistant engineers, who shall hold their offices until removed by the City Council, and until others are elected in their places. Whenever a vacancy occurs in either of the offices named herein the same shall be filled forthwith in the same manner as hereinbefore prescribed."

Also, by striking out the fifteenth section, and inserting in its place the following: —

"SECT. 15. The Mayor and Aldermen shall, in the month of January, in the year eighteen hundred and eighty-two, and whenever vacancies occur, appoint the several engine, hose, and hook and ladder companies, whose term of service shall continue until the respective appointees are removed by the Mayor and Aldermen, and others appointed in their places; and the members of said companies shall receive a warrant substantially like that prescribed for the engineers."

[*Adopted Dec.* 28, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to Salaries.

Section 1 of Chapter 27 of the Revised Ordinances is so amended that from the first day of February, 1882, the compensation of members of the Fire Department shall be as follows: —

Chief Engineer, per year, twelve hundred dollars.

[*Adopted April* 5, 1882.]

An Ordinance in Relation to the Compensation of the Clerk of the Board of Engineers of the Fire Department.

The compensation of the Clerk of the Board of Engineers of the Fire Department shall be at the rate of twenty-five dollars per annum; such rate to take effect as of Jan. 1, 1882.

[*Adopted April* 5, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 24 of Chapter 39 of the Revised Ordinances is hereby amended by adding after the word "follows," at the end of the second paragraph, the words "*provided, however*, that the charge shall not be less than ten dollars for any one year; and *provided, further*, that when the water used by any one taker shall amount to more than five million gallons in any one year commencing with the first day of July, then the charge shall be at the rate of one cent for each one hundred gallons of the excess over that quantity."

[*Adopted April* 12, 1882.]

An Ordinance in Relation to the Salary of the Superintendent of Lamps.

Chapter 27 of the Revised Ordinances is hereby amended as follows: —

The salary of the Superintendent of Lamps shall be five hundred dollars per annum, to date from June 1, 1882.

[*Adopted June* 28, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Section 25 of Chapter 36 of the Revised Ordinances is hereby amended by striking out the entire section, and inserting in place thereof the following: —

"The owner or tenant of any land abutting on any street, lane, court, square, or public place, where there is any footway or sidewalk, shall cause the snow falling on said footway or sidewalk in front of his said land, whether from any building or otherwise, to be removed therefrom within twenty-four hours after the same ceases to fall; and shall cause the ice which incumbers such footway or sidewalk to be removed or covered with sand or other suitable substance, so as to make the footway or sidewalk safe and convenient for travel. Any person failing to do so shall be fined not less than two nor more than twenty dollars."

[*Adopted July* 19, 1882.]

An Ordinance in Relation to the Boundaries of the several Wards, and the Number of Members of the Common Council to be elected in each Ward.

Section 1. The boundaries of the several wards shall, until the month of October, in the year eighteen hundred and eighty-seven, continue the same as now established, with the following exceptions: —

So much of the territory annexed from the town of Belmont as lies south of a line through the centre of Concord Avenue shall constitute a part of Ward One; and so much of said territory as lies north of such line shall constitute a part of Ward Five.

Sect. 2. The members of the Common Council shall be apportioned as follows: Ward One shall elect four; Ward Two shall elect six; Ward Three shall elect four; Ward Four shall elect four; Ward Five shall elect two.

[*Adopted Oct.* 25, 1882.]

An Ordinance substituting the Words "Third District Court of Eastern Middlesex" for the Words "Police Court."

Wherever, in any ordinance of the city, the words "Police Court" occur, they are hereby stricken out, and the words "Third District Court of Eastern Middlesex" are hereby inserted in place thereof.

[*Adopted Nov.* 29, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to Sewers.

Section 1 of Chapter 32 of the Revised Ordinances is hereby amended by adding at the end thereof the words: —

"Nor until the owner shall have paid to the city, as a charge for entering the public sewer, such a sum of money as the Mayor and Aldermen shall order; said sum to be not less than the amount which would be assessed upon the lands of such owner, upon the basis of the present ordinance in the case of a public sewer, less such an allowance for the cost of the private sewer as the City Engineer shall certify to the Mayor and Aldermen is reasonable."

[*Adopted Dec.* 27, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to the City Physician.

Chapter 25 of the Revised Ordinances is hereby amended as follows: —

By striking out the last twenty words of the first section, providing a salary for the City Physician.

Also, by striking out the second section, and inserting in place thereof the following: —

"SECT. 2. There shall also be chosen annually, in the month of April, by the Overseers of the Poor, subject to the approval of the Mayor and Aldermen, a physician, to be called the Assistant City Physician, who, under the direction of the Overseers of the Poor, shall act as the almshouse physician, and shall visit and prescribe for the sick poor in the city, outside of the almshouse. His salary shall be fixed by the City Council."

Also, by striking out the word "He," at the beginning of the third section, and inserting in place thereof the words, "The Assistant City Physician;" and the word "He," at the beginning of each subsequent section, shall be held to designate the Assistant City Physician only.

Also, by striking out the words "City Council" in the seventh section, and inserting in place thereof the words, "Overseers of the Poor."

Also, by striking out the eighth section.

[*Adopted Dec.* 27, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to the Pay of City Laborers.

Section 11 of Chapter 1 of the Revised Ordinances is hereby amended by adding at the end thereof the words: —

"And provided further, that he shall, without action by the committee aforesaid, draw his order for the semi-monthly payment of the wages of the laborers employed in the Street Department; the amounts of such wages to be entered upon pay-rolls which shall be certified as correct by a majority of the Joint Standing Committee on Roads and Bridges; such amounts to be within the appropriation to which the same shall be chargeable."

[*Adopted Feb.* 19, 1883.]

An Ordinance in Relation to the Salaries of Certain City Officers.

Section 1. From and after the first day of February of the current year the salaries of the City Officers hereinafter named shall be as follows: —

Auditor of Accounts	$1,800	per year.
Treasurer of the Commissioners of the Sinking Funds, ...	300	"
Clerk of Committees	2,000	"

Sect. 2. All Ordinances and parts of Ordinances inconsistent herewith are hereby repealed.

[*Adopted March* 19, 1883.]

An Ordinance in Relation to the Compensation of Members of the Fire Department.

SECTION 1. From and after February 1, 1883, the compensation of the members of the Fire Department shall be as follows: —

CALL MEN.

Assistant Engineers, each	$325 per year.
Foremen of Engine and Hook and Ladder Companies	194 "
Assistant Foremen of Engine and Hook and Ladder Companies	183 "
Members of Engine and Hook and Ladder Companies	172 "

PERMANENT MEN.

Engineers of Steam Fire-Engines	$90 per month.
Drivers of Steam Fire-Engines, Hook and Ladder Trucks, and Chemical Engine	75 "
Engineer of Chemical Engine	75 "
Fire-Alarm Telegraph Operator	90 "
Assistant " "	75 "

SECT. 2. All Ordinances and parts of Ordinances inconsistent herewith are hereby repealed.

[*Adopted March* 28, 1883.]

An Ordinance in Relation to the Salary of the City Messenger.

From and after the first day of April of the current year the salary of the City Messenger shall be at the rate of fifteen hundred dollars a year.

[*Adopted April* 9, 1883.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 25 of Chapter 39 of the Revised Ordinances is hereby amended, by striking out the word "fifteen" in the second

paragraph, and inserting in place thereof the word "ten;" also, by inserting after the word "hydrant" the words "or reservoir."

[*Adopted April* 9, 1883.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 1 of Chapter 1 of the Revised City Ordinances, relating to the Auditor of Accounts, is hereby amended by inserting after the end of the first sentence, the following: —

"He shall give a bond in such a form as the City Solicitor shall approve, with sufficient sureties, to be approved by the Mayor and Aldermen, in a sum not less than ten thousand dollars, which bond shall be executed, approved, and delivered before he enters upon the duties of his office, and within ten days after his election. Should he fail to give such bond within the time herein required the election shall be void, and a new election shall be had forthwith. In case of the death or insolvency of any of the sureties on any bond so given, the Auditor shall immediately give a new bond, with sufficient sureties, as hereinbefore provided; and, if he fails to give such new bond within a reasonable time after notice to do so, it shall be sufficient cause for his removal from office.

"*Provided, however*, that the first bond herein required shall be filed within ten days from the passage of this Ordinance."

[*Adopted April* 9, 1883.]

An Ordinance in Relation to Uniforms for the Permanent Men of the Fire Department.

Section 1. The permanent men of the Fire Department shall be required to furnish themselves with a suitable uniform, the same to consist of a cap, overcoat, undercoat, vest, and pantaloons, and to be of such materials, quality of goods, and pattern, as the Mayor and Aldermen may prescribe.

Sect. 2. This Ordinance shall take effect upon the first day of May, 1883.

[*Adopted April* 28, 1883.]

An Ordinance in Relation to the Compensation of Members of the Police Force.

From and after the 25th day of March, 1883, the compensation of members of the Police Force hereinafter named shall be as follows: —

Captains	$1,150 per year.
Sergeants	$2.87½ per day.
Policemen, after two years of service . . .	$2.75 per day.
Policemen, until two years of service . . .	$2.50 per day.

[*Adopted May* 14, 1883.]

An Ordinance Repealing an Ordinance in Relation to the Salary of the City Physician.

An Ordinance entitled "An Ordinance in Relation to the Salary of the City Physician," adopted March 3d, 1880, is hereby repealed.

[*Adopted June* 11, 1883.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 11 of Chapter 1 of the Revised Ordinances, as amended February 19th, 1883, is hereby further amended by adding at the end of such amendment the words: —

"And *provided further*, that he shall, without action of the committee aforesaid, draw his order for the semi-monthly payment of the wages of the laborers employed upon the city ledge and house-offal wagons, and in the sewer department, the amounts of such wages to be entered upon pay-rolls, which shall be certified as correct, as follows: those of the laborers upon the city ledge and house-offal wagons, by a majority of the board of overseers of the poor, and those of the laborers in the sewer department by a majority of the committee on sewers, such amounts to be within the appropriation to which the same shall be chargeable."

[*Adopted July* 30, 1883.]

An Ordinance in Relation to the Salaries of the Assistant Assessors.

The salaries of the Assistant Assessors shall be at the rate of four dollars per day, for services rendered; the same to take effect as of the year 1883.

[*Adopted Sept.* 17, 1883.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Chapter 39 of the Revised Ordinances is hereby amended as follows: —

In Section 13, by striking out the word "June" and by inserting in place thereof the word "April."

In Section 15, by striking out the word "July" in the second and fourth lines, and inserting in place thereof the word "May."

In Section 16, by striking out the word "August" in the seventh line and inserting in place thereof the word "June."

In Section 20, Regulation 6, by inserting after the word "registrar" the words "while the person liable for the water-rates is in possession of the premises."

In Section 24, in the list of rates under the head of Dwelling Houses, by striking out the figures $22.00, $30.00, and $35.00, and inserting in place thereof, respectively, the figures $18.00, $26.00, and $31.00.

[*Adopted April* 9, 1884.]

An Ordinance in Relation to the Salary of the Inspector of Milk.

The salary of the Inspector of Milk shall be four hundred and twenty-five dollars per annum, the same to date from the first day of January, 1884.

[*Adopted April* 28, 1884.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 11 of Chapter 1 of the Revised Ordinances is hereby amended by striking out the amendments thereto respectively

adopted Feb. 19, 1883, and July 30, 1883, and inserting in place thereof the following: —

And provided also that he shall, without action by the committee aforesaid, draw his order for the semi-monthly payment of the wages of all laborers employed in the various city departments, — the amounts of such wages to be entered in detail upon pay-rolls, which shall be properly certified by the board or committee, respectively, having control of the appropriation to which such amounts shall be chargeable.

[*Adopted May* 19, 1884.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 3 of Chapter 39 of the Revised Ordinances is hereby amended, by inserting in the eighth line thereof, after the word "Cambridge," the words "also by an Act of the said Legislature approved on the twenty-first day of May, A. D. 1884, entitled 'an Act to provide a further supply of water for the City of Cambridge.'"

[*Adopted July* 14, 1884.]

An Ordinance in Relation to the Salary of the Mayor.

From and after the first day of January, 1885, the salary of the Mayor shall be twenty-five hundred dollars per annum.

[*Adopted Sept.* 10, 1884.]

An Ordinance in Relation to the Salary of the City Engineer.

The salary of the City Engineer shall be three thousand dollars per annum, — to date from August 1, 1884.

[*Adopted Sept.* 10, 1884.]

An Ordinance in Relation to the Salary of the Superintendent of Lamps.

The salary of the Superintendent of Lamps shall be at the rate of six hundred and fifty dollars per annum, the same to take effect on the first day of September, 1884.

[*Adopted Nov.* 17, 1884.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 24 of Chapter 39 of the Revised Ordinances is hereby amended by inserting after the word "power" in the first line of the last paragraph the words "to prevent the erection of yard hydrants, and ;" — so that the section will read, "The Board shall have power to prevent the erection of yard hydrants, and to establish such regulations as they may deem expedient," &c.

[*Adopted Dec.* 22, 1884.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 25 of Chapter 39 of the Revised Ordinances is hereby amended by striking out the words "and a half" from the third line of the second paragraph ; making the charge for water used for watering streets at the rate of one cent per hundred gallons.

[*Adopted Feb.* 17, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 24 of Chapter 39 of the Revised Ordinances is hereby amended by striking out, at the end of the list of Water Rates, the words:

"Building Purposes: — For every cask of lime and cement used, six cents."

[*Adopted March* 24, 1885.]

MAYORS

OF

THE CITY OF CAMBRIDGE,

FROM 1846 TO 1885.

James D. Green . . .	from	May,	1846, to	April,	1848.
Sidney Willard . . .	"	April,	1848, to	April,	1851.
George Stevens . . .	"	April,	1851, to	April,	1853.
James D. Green . . .	"	April,	1853, to	April,	1854.
[1] Abraham Edwards . .	"	April,	1854, to	January,	1855.
Zebina L. Raymond . .	"	January,	1855, to	January,	1856.
John Sargent	"	January,	1856, to	January,	1860.
[2] James D. Green . . .	"	January,	1860, to	July 24,	1861.
[3] Charles Theo. Russell	"	July 31,	1861, to	January,	1863.
George C. Richardson .	"	January,	1863, to	January,	1864.
Zebina L. Raymond . .	"	January,	1864, to	January,	1865.
J. Warren Merrill . .	"	January,	1865, to	January,	1867.
Ezra Parmenter . . .	"	January,	1867, to	January,	1868.
Charles H. Saunders .	"	January,	1868, to	January,	1870.
Hamlin R. Harding . .	"	January,	1870, to	January,	1872.
Henry O. Houghton .	"	January,	1872, to	January,	1873.
Isaac Bradford . . .	"	January,	1873, to	January,	1877.
Frank A. Allen . . .	"	January,	1877, to	January,	1878.
Samuel L. Montague .	"	January,	1878, to	January,	1880.
James M. W. Hall . .	"	January,	1880, to	January,	1881.
James A. Fox	"	January,	1881, to	January,	1885.
William E. Russell .	"	January,	1885.	Now in office.	

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[1] Municipal year changed.

[2] Resigned.

[3] First elected by the City Council.

GOVERNMENT

OF

THE CITY OF CAMBRIDGE.

1885.

MAYOR.

HON. WILLIAM E. RUSSELL.

ALDERMEN.

GEORGE A. ALLISON,
GEORGE CLOSE,
JOSEPH COGAN,
EDWARD R. COGSWELL,
CHARLES W. HENDERSON,
JOSEPH J. KELLEY,
NATHAN C. LOMBARD,
ISAAC S. PEAR,
MALCOLM E. RIDEOUT,
SOLOMON S. SLEEPER.

Aldermen, by Wards.

Ward 1.	Alderman	COGSWELL.
" 2.	Aldermen	CLOSE and LOMBARD.
" 3.	"	COGAN and KELLEY.
" 4.	"	HENDERSON, PEAR, and RIDEOUT.
" 5.	"	ALLISON and SLEEPER.

Clerk.

JUSTIN A. JACOBS.

COMMON COUNCIL.

CORNELIUS G. H. BENNINK, *President.*

JOSEPH A. BALL,
CORNELIUS G. H. BENNINK,
EDGAR R. CHAMPLIN,
COLIN CHISHOLM,
THOMAS CONROY,
EDWARD J. COOLIDGE,
JOHN H. CORCORAN,
JAMES E. DOYLE,
FRANCIS FITZPATRICK,
DANIEL J. HAYES,
WARREN IVERS,
HORACE G. KEMP,
JOHN LOCKE,
MICHAEL F. MCGRATH,
WILLIAM MILLIGAN,
WILLIAM T. NEILON,
ORRIN E. SANDS,
ALVIN F. SORTWELL,
ELBRIDGE G. STEVENS,
GEO. A. THURSTON, JR.

Common Council, by Wards.

Ward 1. Messrs. COOLIDGE, IVERS, MCGRATH, and THURSTON.
" 2. Messrs. BENNINK, CHAMPLIN, CHISHOLM, KEMP, MILLIGAN, and SORTWELL.
" 3. Messrs. CONROY, DOYLE, FITZPATRICK, and NEILON.
" 4. Messrs. BALL, CORCORAN, LOCKE, and STEVENS.
" 5. Messrs. HAYES and SANDS.

Clerk.

WALTER W. PIKE.

Page.

WILLIAM PEARSON.

CITY CLERK.

JUSTIN A. JACOBS.

ASSISTANT CITY CLERK.

WALTER W. PIKE.

CITY MESSENGER.

FRANCIS L. PRATT.

COMMITTEES OF THE CITY COUNCIL.

Joint Standing Committees.

Accounts. — *Aldermen* LOMBARD and PEAR; *Councilmen* LOCKE, BALL, and FITZPATRICK.

Almshouse. — *Aldermen* SLEEPER and KELLEY; *Councilmen* THURSTON, DOYLE, and SORTWELL.

Assessors' Department. — *Alderman* RIDEOUT; *Councilmen* NEILON and CONROY.

City Engineering. — *Aldermen* LOMBARD and KELLEY; *Councilmen* LOCKE, CONROY, and HAYES.

Claims. — The MAYOR, and *Aldermen* ALLISON, PEAR, and KELLEY; the PRESIDENT, and *Councilmen* NEILON, CHAMPLIN, BALL, THURSTON, and CORCORAN.

Finance. — The MAYOR, and *Aldermen* SLEEPER and LOMBARD; the PRESIDENT, and *Councilmen* NEILON, STEVENS, CHAMPLIN, IVERS, and SANDS.

Fire Department. — *Aldermen* COGAN and HENDERSON; *Councilmen* DOYLE, MILLIGAN, and COOLIDGE.

Fuel. — *Aldermen* SLEEPER and COGAN; *Councilmen* LOCKE, CHISHOLM, and SORTWELL.

Health. — *Aldermen* COGSWELL and HENDERSON; *Councilmen* FITZPATRICK, SANDS, and MCGRATH.

Lamps. — *Aldermen* PEAR and COGSWELL; *Councilmen* CHISHOLM, MCGRATH, and MILLIGAN.

Ordinances. — *Aldermen* RIDEOUT and PEAR; *Councilmen* CHAMPLIN, MILLIGAN, and SANDS.

Printing. — *Aldermen* CLOSE and ALLISON; *Councilmen* KEMP, CHISHOLM, and CORCORAN.

Public Instruction. — *Aldermen* COGSWELL and COGAN; the PRESIDENT, and *Councilmen* BALL, CHISHOLM, and COOLIDGE.

Public Property. — *Aldermen* RIDEOUT and ALLISON; *Councilmen* DOYLE, STEVENS, and IVERS.

Roads and Bridges. — *Aldermen* HENDERSON and CLOSE; *Councilmen* SORTWELL, KEMP, and HAYES.

Water Supply. — *Aldermen* CLOSE and KELLEY; *Councilmen* STEVENS, THURSTON, and KEMP.

Standing Committees of the Mayor and Aldermen.

Bonds. — *Aldermen* COGAN, SLEEPER, and RIDEOUT.

Claims. — The MAYOR, and *Aldermen* ALLISON, PEAR, and KELLEY.

Fire Department. — *Aldermen* COGAN, HENDERSON, and CLOSE.

Health. — *Aldermen* COGSWELL, HENDERSON, and LOMBARD.

Licenses. — *Aldermen* KELLEY, COGSWELL, and RIDEOUT.

Police. — The MAYOR, and *Aldermen* COGSWELL, CLOSE, and KELLEY.

Roads and Bridges. — *Aldermen* HENDERSON, CLOSE, and PEAR.

Sewers and Drains. — *Aldermen* SLEEPER, COGAN, and LOMBARD.

Special Committee of the Board of Aldermen.

Soldiers' Aid. — *Aldermen* COGAN, RIDEOUT, CLOSE, ALLISON, and COGSWELL.

Standing Committees of the Common Council.

Bills in the Second Reading. — *Councilmen* MILLIGAN, FITZPATRICK, and COOLIDGE.

Elections and Returns. — *Councilmen* STEVENS, MCGRATH, and CONROY.

Enrolled Ordinances. — *Councilmen* CHAMPLIN, CORCORAN, and THURSTON.

Members of the City Council,

With the Committees on which they have been appointed.

THE MAYOR. — Claims, Finance, Police.

ALDERMAN ALLISON. — Claims, Printing, Public Property, Soldiers' Aid.

ALDERMAN CLOSE. — Printing, Roads and Bridges, Fire Department (Standing), Police, Soldiers' Aid.

ALDERMAN COGAN. — Fire Department, Fuel, Public Instruction, Bonds, Sewers and Drains, Soldiers' Aid.

ALDERMAN COGSWELL. — Health, Lamps, Public Instruction, Licenses, Police, Soldiers' Aid.

ALDERMAN HENDERSON. — Fire Department, Health, Roads and Bridges.

Alderman Kelley. — Almshouse, City Engineering, Claims, Licenses, Police.

Alderman Lombard. — Accounts, City Engineering, Finance, Health (Standing), Sewers and Drains.

Alderman Pear. — Accounts, Claims, Lamps, Ordinances, Roads and Bridges (Standing).

Alderman Rideout. — Assessors' Department, Ordinances, Public Property, Bonds, Licenses, Soldiers' Aid.

Alderman Sleeper. — Almshouse, Finance, Fuel, Bonds, Sewers and Drains.

The President of the Common Council. — Claims, Finance, Public Instruction.

Mr. Ball. — Accounts, Claims, Public Instruction.

Mr. Champlin. — Claims, Finance, Ordinances, Enrolled Ordinances.

Mr. Chisholm. — Fuel, Lamps, Printing, Public Instruction.

Mr. Conroy. — Assessors' Department, City Engineering, Elections and Returns.

Mr. Coolidge. — Fire Department, Public Instruction, Bills in the Second Reading.

Mr. Corcoran. — Claims, Printing, Enrolled Ordinances.

Mr. Doyle. — Almshouse, Fire Department, Public Property.

Mr. Fitzpatrick. — Accounts, Health, Bills in the Second Reading.

Mr. Hayes. — City Engineering, Roads and Bridges.

Mr. Ivers. — Finance, Public Property.

Mr. Kemp. — Printing, Roads and Bridges.

Mr. Locke. — Accounts, City Engineering, Fuel.

Mr. McGrath. — Health, Lamps, Elections and Returns.

Mr. Milligan. — Fire Department, Lamps, Ordinances, Bills in the Second Reading.

Mr. Neilon. — Assessors' Department, Claims, Finance.

Mr. Sands. — Finance, Health, Ordinances.

Mr. Sortwell. — Almshouse, Fuel, Roads and Bridges.

Mr. Stevens. — Finance, Public Property, Elections and Returns.

Mr. Thurston. — Almshouse, Claims.

Clerk of Committees.

John McDuffie.

23

Board of Health.

Henry P. Walcott, *City Physician, ex officio.*

(Term, three years. Appointed 1883.)

(Term, two years.)

Daniel H. Thurston (appointed 1884).
George F. Piper (appointed 1885).

Health Officer.

Alfred F. Holt, M. D.

Assistant City Physician.

(Elected in April by the Overseers of the Poor, subject to the approval of the Mayor and Aldermen.)

Lewis L. Bryant, M. D.

Health Officers.

Lothrop J. Cloyes.
Thomas H. Lucy.
Mark J. Folsom.
John F. Murray.

Surveyors of Highways.

The same persons who compose the Board of Mayor and Aldermen.

Auditor of Accounts.

Franklin Perrin.

Treasurer.

William W. Dallinger.

Assessors.

(Term, three years.)

Artemas Z. Brown (elected 1882).
Andrew J. Green (elected 1883).
Joshua G. Gooch (elected 1884).

Assistant Assessors.

Charles H. Hunnewell. George L. Mitchell.
Mason Davis. Joseph Whittemore.
William E. Hutchins.

School Committee.

William E. Russell, Mayor, *ex officio*, *Chairman*.

(Term, three years.)

Ward I.

Francis Flint (elected 1882).
Garrett E. Nagle (elected 1883).
John L. Hildreth (elected 1884).

Ward II.

Phebe M. Kendall (elected 1882).
Benjamin F. Tweed (elected 1883).
Henry N. Tilton (elected 1884).

Ward III.

Patrick J. Finnigan (elected 1884, in place of Francis P. Scully, 1882, resigned).
Edward B. Malley (elected 1883).
Freeman Hunt (elected 1884).

Ward IV.

Sarah S. Jacobs (elected 1882).
Moses D. Church (elected 1883).
William H. Orcutt (elected 1884).

Ward V.

Albert M. Barnes (elected 1882).
William A. Start (elected 1883).
John W. Fairbanks (elected 1884).

Secretary.

W. W. Wellington.

Superintendent of Schools.

Francis Cogswell.

Overseers of the Poor.

The MAYOR, *ex officio*, *Chairman.*

(Term, five years.)

Jonas C. Wellington (elected 1880).
George D. Chamberlain (elected 1881).
Charles E. Vaughan (elected 1882).
Knowlton S. Chaffee (elected 1883).
Sumner Albee (elected 1884).

Secretary.

David P. Muzzey.

Visitor.

Vespasian Danforth.

Warden of the Almshouse.

William E. Hough.

Physician of the Almshouse.

Lewis L. Bryant,
(*Assistant City Physician*).

Cambridge Cemetery.

Commissioners.

The MAYOR, *ex officio.*

(Term, three years.)

Samuel W. McDaniel (elected 1883).
Silas B. Buck (elected 1883).
George S. Saunders (elected 1884).
John F. O'Brien (elected 1884).
Curtis Davis (elected 1885).
Charles E. Raymond (elected 1885).

Superintendent.

James K. Farwell.

Trustees of Cambridge Public Library.

Alderman.

Edward R. Cogswell.

Common Council.

Cornelius G. H. Bennink.

Citizens at Large.

(Term, five years.)

Hersey B. Goodwin (elected 1881).
Samuel L. Montague (elected 1882).
Jabez A. Sawyer (elected 1883).
Joseph J. Kelley (elected 1884).
Henry H. Gilmore (elected 1885).

Librarian.

Almira L. Hayward.

Secretary.

Cornelius G. H. Bennink.

Cambridge Water Board.

The MAYOR, and President of the Common Council, *ex officio.*

(Term, five years.)

Knowlton S. Chaffee (elected 1880).
James M. W. Hall (elected 1881).
Chester W. Kingsley, *President* (elected 1882).
Leander M. Hannum (elected 1885, in place of Henry L. Eustis, 1883, deceased).
John F. O'Brien (elected 1884).

Clerk.

Justin A. Jacobs.

Superintendent of Water Works.

Hiram Nevons.

Pumping Engineer.

Edwin C. Brooks.

Water Registrar.

Walter H. Harding.

Trustees of Sinking Fund of Water Loan.

The MAYOR, City Treasurer, and President of the Common Council, *ex officio.*

Commissioners on Sinking Funds of the Ci y.

(Term, three years.)

John M. Tyler (elected 1882).
Joseph A. Holmes (elected 1882).
* ——— ———
Charles H. Saunders (elected 1883).
George T. Gale (elected 1884).
Knowlton S. Chaffee (elected 1884).

Trustees of the Sanders Temperance Fund.

The MAYOR, and President of the Common Council, *ex officio.*

Alderman.
Nathan C. Lombard.

Common Council.
Warren Ivers.
John Locke.

Trustees of the Bridge Charitable Fund.

The MAYOR, and President of the Common Council, *ex officio.*

Alderman.
Solomon S. Sleeper.

Trustees of the Dowse Institute.

The MAYOR, and President of the Common Council, *ex officio.*
William W. Wellington. Willard A. Bullard.
Frank A. Allen.

Senator in General Court.

Henry J. Wells.

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* Robert Douglass, deceased, was elected 1883.

Representatives in General Court.

William A. Bancroft.
Woodward Emery.
George D. Chamberlain.
John W. Wilkinson.
George C. Bent.
William E. Doyle.

Registrars of Voters.

The City Clerk, *ex officio*, Clerk of Board.

(Appointed in 1884.)

James H. Wells. (Term expires May 1, 1885.)
Horace K. Osborn. (Term expires May 1, 1886.)
Jeremiah W. Coveney. (Term expires May 1, 1887.)

(One appointed annually, in March or April, to hold office for three years.)

Police Court.

Standing Justice.

William H. Orcutt.

Special Justices.

Samuel W. McDaniel.
Jabez Fox.

Clerk.

Emerson W. Law.

City Solicitor.

John W. Hammond.

City Engineer.

William S. Barbour.

Commissioner on West Boston, Craigie's, and Prison Point Bridges.

William J. Marvin.

Harbor-Master.

William J. Marvin.

Superintendent of Streets.

John McSorley.

Superintendent of Lamps.

Benjamin F. Nourse.

Board of Engineers.

Chief Engineer.

Thomas J. Casey.

Assistant Engineers.

First Assistant	Nathaniel W. Bunker.
Second Assistant	Charles W. Brackett.
Third Assistant	William B. Cade.

Secretary of the Board.

Nathaniel W. Bunker.

Police Department.

Chief of Police.

Lothrop J. Cloyes.

Captains of Police.

District I.	District II.	District III.
Thomas H. Lucy.	Mark J. Folsom.	John F. Murray.

Inspector.

Sergeant Michael A. Dalton.

Sergeants of Police.

James S. Alexander.	Michael A. Dalton.
William F. Batchelder.	Lawrence J. Ducey.
Edward Brady.	Alonzo S. Harriman.
Daniel Callahan.	William Mullett.
Denis Corcoran.	Andrew Sproul.

Policemen.

(With the numbers of their badges.)

No.		No.	
5	Frederick Apel.	20	Timothy Corcoran.
7	George T. Barrington.	56	John Coulter.
28	Edward F. Belcher.	68	John W. Deehan.
53	Elbridge S. Blen.	48	Frank J. Donelan.
69	Michael J. Brennan.	40	Patrick Doyle.
10	Benjamin F. Bridden.	35	George S. Dudley.
29	Michael J. Conry.	50	Thomas F. Dynan.

No.	
15	Warren A. Eaton.
8	Joseph H. Furbush.
44	William Gallagher.
38	Michael A. Ginty.
2	William H. Graves.
41	John J. Griffiths.
9	James P. Hall.
25	Thomas S. Hall.
14	Benjamin F. Higgins.
49	Simon D. Hiscock.
47	Robert T. Hixon.
22	Moses W. Hooper.
33	Amos Jones.
11	Henry C. Jones.
19	Edward Joyce.
37	James M. Keaney.
27	George A. Marston.
66	James McChristal.
1	John E. McCrehan.
26	James McElroy.
64	William H. McMenimen.
57	Hugh McNamee.
30	Matthew R. Moore.
21	Cornelius A. Murphy.
43	James E. Murray.
45	Patrick F. Murray.
60	William Nickelson.
39	Michael J. Nolan.
18	Charles L. Pike.
52	Charles W. Priest.
55	Frederick B. Pullen.
59	Thomas J. Real.
70	Frederick A. Robinson.
62	Bernard J. Roper.
46	Frank W. Scobey.
6	Leonard Shackford.
65	John E. Shaughnessy.
63	John W. Skelley.
31	Charles H. Stetson.
24	David A. Stevens.
61	Cornelius Sullivan.
67	Thomas F. Sullivan.
13	William Twist.
42	John H. Wells.
23	Michael J. Whalen.
3	Orrin B. White.
54	John Wiley.
34	James W. Wright.

Policemen (without pay).

J. L. P. Ackers.	Nathaniel W. Bunker.
Frank E. Allard.	Thomas J. Burns.
Horace A. Allyn.	Edward A. Burroughs.
Mark H. Appleby.	Samuel Busnach.
Richard Balmer.	Solomon M. Busnach.
William H. Bates.	William B. Cade.
Joseph Beaubo.	J. P. Carlon.
Charles F. Bowman.	Martin C. Carr.
Charles W. Brackett.	Thomas J. Casey.
Thomas Briney.	Moses M. Child.
Charles Brousseau.	Charles S. Childs.
Frank E. Bryant.	Ambrose H. Clark.
Ferdinand N. Buffum.	Andrew V. Cleaveland.

John Coffee.
Noah M. Cofran.
John Collier.
Joseph Collins.
William Collins.
William J. Corbett.
Patrick Corcoran.
Carl A. Corlin.
Charles Coy.
Vespasian Danforth.
Gilbert M. Davren.
William H. Dodge.
James Doherty.
James F. Dunn.
George W. Durgin.
Patrick F. Durlea.
Thomas H. Eames.
George D. Eaton, Jr.
Frank A. Edson.
William Elliott.
Henry L. Emerson.
James K. Farwell.
Dennis J. Fielding.
John E. Fitzgerald.
Michael Fitzpatrick.
Thomas Flynn.
Jeremiah D. Ford.
William Foster.
G. C. W. Fuller.
Major Gaines.
Charles A. Gay.
Richard J. Gearry.
William T. Gibson.
Eli L. Goodrow.
George W. Greenleaf.
Charles E. Hadcock.
Henry L. Hale.
Angus M. Hamilton.
Martin J. Hannon.
Luther Hapgood.
John L. Harrington.
George H. Hastings.
A. D. Hibbard.
Charles F. Hittinger.
William E. Hough.
Thomas M. Howard.
Samuel S. Howland.
Appleton Hubbard.
William Hunnewell.
Samuel F. Hunt.
Patrick J. Hurley.
James W. Irwin.
Charles W. Jones.
Benjamin Kennard.
George A. Keough.
Barney King.
Martin V. Langley.
Charles S. Lincoln.
Roland Litchfield.
John Little.
Abiel E. Long.
George B. Lothrop.
John Loughrey.
James W. Lovering.
William O. Lowell.
Charles K. Luther.
Thomas Lyons.
Francis M. Mason.
Jeremiah McCarthy.
Patrick McCarthy.
Bernard McCaffrey.
John B. McGovern.
Philip McGovern.
James McIntosh.
Robert McKillican.
James McNeill.
John H. Menard.
Thomas Montgomery.
William N. Mullen.
Dennis Murphy.

Patrick Murphy.
Augustus W. Nelson.
Hiram Nevons.
Hiram L. Nichols.
David A. Noble.
John J. O'Brien.
Thomas F. O'Brien.
George R. Oliver.
William J. O'Neil.
Francis A. Osborn.
William F. Peck.
Thomas W. Penney.
Benjamin J. Pierce.
Joseph A. Pike.
Linn B. Porter.
William N. Porter.
Eben Pratt.
Francis L. Pratt.
Lewis Pratt.
Thomas Preston.
P. H. Raymond.
S. C. Redding.
Anton J. Rice.
John W. Richmond.
John Riley.
John Ring.
Charles L. Russell.
John J. Ryan.
Joshua S. Sanborn.
James T. Shaughnessy.
John T. Shea.
Alex. F. Shepherd.
Oscar W. Short.
Henry Smith.
George Smyth.
George F. Spencer.
John H. Steward.
Dennis H. Sullivan.
Philip Sullivan.
Richard Sullivan.
George J. Sutton.
James W. Thompson.
Henry Volk.
George White.
Edward M. Williams.
William S. Wilson.
George Wood.
Edgar L. Worcester.

Keeper of Lock-ups.

Lothrop J. Cloyes.

Truant-Officers.

Moses M. Child.
John Collier.
Francis M. Mason.

Probation Officer.

Frederick W. Hagar.

Constables.

Charles J. Adams.
George T. Barrington.
William F. Batchelder.
John L. Boynton.
John C. Burdakin.
Michael S. Busnach.
Lothrop J. Cloyes.
Michael A. Dalton.
Lawrence J. Ducey.
John R. Fairbairn.

Thomas T. Ferguson.
Mark J. Folsom.
Joseph Fox.
John Good.
Alfred F. Holt.
Appleton Hubbard.
Charles H. Hunnewell.
John Lennon.
Charles S. Lincoln.
Frederick A. Lull.
Dennis D. McCarthy.
James H. Murphy.
John F. Murray.
Fred. H. Seavey.
John W. Skelley.
Warren F. Spalding.
William Twist.
Edward M. Williams.

Superintendent of Burial-Ground in Ward I.

Benjamin F. Wyeth.

Undertakers.

William Casey.
John W. Coveney.
Thomas Devens.
Samuel F. Hunt.
Joseph J. Kelley.
James Kernan.
Horace D. Litchfield.
Judson Litchfield.
Roland Litchfield.
C. Henry Lockhart.
Edward J. P. Maccabe.
William N. Mullins.
John J. Murphy.
William Ross.
James E. Rourke.
William A. Taylor.
Benjamin F. Wyeth.

Auctioneers.

John K. Abbott.
William H. Brown.
Daniel A. Buckley.
Edward Burnham.
Jeremiah W. Coveney.
Watson G. Cutter.
John R. Fairbairn.
John Lennon.
Frederick A. Lull.
Samuel Nash.
Samuel F. Rugg.
Edmund E. Sanborn.
Ira Taylor.
Charles H. Young.

Fence-Viewers.

George B. Lothrop.
Abel Stevens.
Francis H. Stickney.

Field-Drivers.

Frederick Apel.
George T. Barrington.
Edward F. Belcher.
Elbridge S. Blen.
Michael J. Brennan.
Benjamin F. Bridden.
Michael J. Conry.
Timothy Corcoran.
John Coulter.
Frank J. Donelan.
Patrick Doyle.
George S. Dudley.
Thomas F. Dynan.
Warren A. Eaton.
Joseph H. Furbush.
William Gallagher.
Michael A. Ginty.
William H. Graves.
John J. Griffiths.
James P. Hall.
Thomas S. Hall.
Benjamin F. Higgins.
Simon D. Hiscock.
Robert T. Hixon.
Moses W. Hooper.
Amos Jones.
Henry C. Jones.
Edward Joyce.
James M. Keaney.
George A. Marston.
James McChristal.
John E. McCrehan.
James McElroy.
William H. McMenimen.
Hugh McNamee.
Matthew R. Moore.
Cornelius A. Murphy.
James E. Murray.
Patrick F. Murray.
William Nickelson.
Michael J. Nolan.
Charles L. Pike.
Charles W. Priest.
Frederick B. Pullen.
Thomas J. Real.
Frederick A. Robinson.
Bernard J. Roper.
Frank W. Scobey.
Leonard Shackford.
John E. Shaughnessy.
John W. Skelley.
Charles H. Stetson.
David A. Stevens.
Cornelius Sullivan.
Thomas F. Sullivan.
William Twist.
John H. Wells.
Michael J. Whalen.
Orrin B. White.
John Wiley.
James W. Wright.

Measurers of Wood and Bark.

William H. Hood.
Benjamin J. Hoyt.
William Jaques.
Herbert T. Lawrence.
Horace L. Porter.
Joshua S. Sanborn.
J. Henry Wyman.

Pound-Keepers.

Thomas D. Cook. William Twist.
Elisha S. Woodard.

Fish Officers.

Charles S. Hanks. Linn B. Porter.
Dwight M. Turner.

Hay-Weighers.

William H. Dodge. Joshua S. Sanborn.
Thomas Gurnham. Timothy Sullivan.

Coal-Weighers.

Frank Bailey.
Edward W. Blake.
Silas E. Buck.
George C. Gardiner.
Walter F. Grieves.
Patrick Kelley.
Herbert T. Lawrence.
Thomas H. Matthews.
John E. A. Mulliken.
Horace L. Porter.
Joshua S. Sanborn.
Jones Valentine.
Alfred H. Wellington.
Ernest H. Wellington.

Weigher of Boilers and Heavy Machinery.

Joshua S. Sanborn.

Inspectors of Junk Shops.

Mark J. Folsom. Thomas H. Lucy.
John F. Murray.

Sealer of Weights and Measures.

Benjamin F. Nourse.

Deputy Sealer.

Conrad D. Kinnear.

Weighers.

Joseph W. Averill.
Leonard R. Bacon.
George W. Barnes.
Isaac A. Chandler.
James W. Coleman.
Ira Doughty.
John Guiney.
Alvin M. Haines.
Charles F. Hittinger.
Harry Hittinger.
Nathan H. Holbrook.
Henry Hooker.
Henry James.
Alfred Merrill.
Robert S. Paine.
Thomas Ralph.
James H. Reardon.
John Reardon, Jr.
Joshua S. Sanborn.
Thomas H. Shea.
Charles F. Stafford.
Elisha S. Woodard.
George W. Wright.

Inspector of Milk.

John H. Farrell.

Inspector of Vinegar.

John H. Farrell.

Surveyors of Mechanics' Work.

William S. Barbour.
Arthur Hodges.
Charles A. Mason.
John S. Pollard.

Measurers and Surveyors.

Henry L. Hale.
E. F. Young.

Inspector of Charcoal Baskets.

Benjamin F. Nourse.

Measurer of Grain.

Benjamin F. Nourse.

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